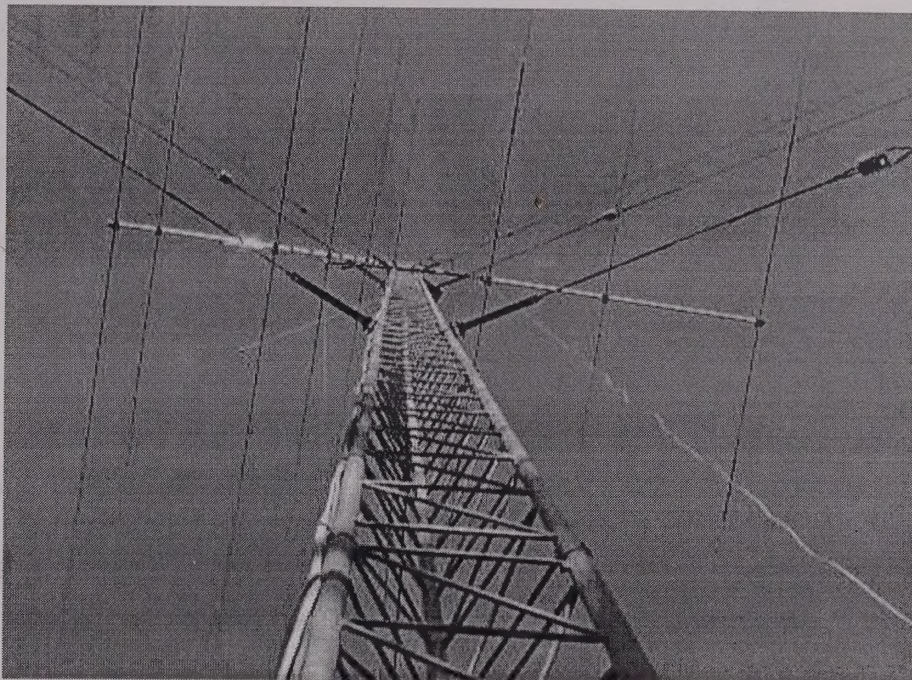


N1MM Logger

Free Contest Logging Software



Idea & overall design:	Tom Wagner	N1MM
Overall programming:	Tom Wagner	N1MM
Programming:	Rick Ellison	N2AMG
	Terry Gerdes	AB5K
Documentation/Help:	Thomas Tinge	PA1M
Testing and proposals:	Members Yahoo group	Thanks!!!

Updated through version 3.0.220

Date: April 10, 2004

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1901-1902

24 AM

17. Training of staff in early morning hours, 1961-1962. The staff of the Department of Education, Government of India, was trained in the use of the computer system during the period 1961-1962. The training was conducted by the staff of the Department of Education, Government of India, and the staff of the Department of Education, Government of India. The training was conducted in the form of a series of lectures and practical exercises. The staff of the Department of Education, Government of India, were trained in the use of the computer system during the period 1961-1962. The training was conducted by the staff of the Department of Education, Government of India, and the staff of the Department of Education, Government of India. The training was conducted in the form of a series of lectures and practical exercises.

The Department of Defense (DOD) is the largest federal agency in the United States, responsible for the military and national security. It is headed by the Secretary of Defense, who is a member of the President's Cabinet. The DOD is organized into several major components, including the Department of Defense itself, the Joint Chiefs of Staff, and the various military departments (Army, Navy, Air Force, Marine Corps, and Coast Guard). The DOD is also responsible for the development and procurement of military equipment and services.

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177405

CA County Multipliers for Out-of-State Participants (58)

ALAM	Alameda	MARN	Marin	SMAT	San Mateo
ALPI	Alpine	MARP	Mariposa	SBAR	Santa Barbara
AMAD	Amador	MEND	Mendocino	SCLA	Santa Clara
BUTT	Butte	MERC	Merced	SCRU	Santa Cruz
CALA	Calaveras	MODO	Modoc	SHAS	Shasta
COLU	Colusa	MONO	Mono	SIER	Sierra
CCOS	Contra Costa	MONT	Monterey	SISK	Siskiyou
DELN	Del Norte	NAPA	Napa	SOLA	Solano
ELDO	El Dorado	NEVA	Nevada	SONO	Sonoma
FRES	Fresno	ORAN	Orange	STAN	Stanislaus
GLEN	Glenn	PLAC	Placer	SUTT	Sutter
HUMB	Humboldt	PLUM	Plumas	TEHA	Tehama
IMPE	Imperial	RIVE	Riverside	TRIN	Trinity
INYO	Inyo	SACR	Sacramento	TULA	Tulare
KERN	Kern	SBEN	San Benito	TUOL	Tuolumne
KING	Kings	SBER	San Bernardino	VENT	Ventura
LAKE	Lake	SDIE	San Diego	YOLO	Yolo
LASS	Lassen	SFRA	San Francisco	YUBA	Yuba
LANG	Los Angeles	SJOA	San Joaquin		
MADE	Madera	SLUI	San Luis Obispo		

USA/Canada Multipliers for California Participants (58)

AL	Alabama	MA	Massachusetts	TX	Texas
AK	Alaska	MI	Michigan	UT	Utah
AZ	Arizona	MN	Minnesota	VT	Vermont
AR	Arkansas	MS	Mississippi	VA	Virginia
CA	Invalid – must log CA county	MO	Missouri	WA	Washington
CO	Colorado	MT	Montana	WV	West Virginia
CT	Connecticut	NE	Nebraska	WI	Wisconsin
DE	Delaware	NV	Nevada	WY	Wyoming
FL	Florida	NH	New Hampshire	MR	Maritimes, Newfoundland and Labrador (NB, NL, NS, PE)
GA	Georgia	NJ	New Jersey	QC	Quebec
HI	Hawaii	NM	New Mexico	ON	Ontario
ID	Idaho	NY	New York	MB	Manitoba
IL	Illinois	NC	North Carolina	SK	Saskatchewan
IN	Indiana	ND	North Dakota	AB	Alberta
IA	Iowa	OH	Ohio	BC	British Columbia
KS	Kansas	OK	Oklahoma	NT	Northern Territories (NT, NU, YT)
KY	Kentucky	OR	Oregon		
LA	Louisiana	PA	Pennsylvania		
ME	Maine	RI	Rhode Island		
MD	Maryland, District of Columbia	SC	South Carolina		
		SD	South Dakota		
		TN	Tennessee		
				DX	All other locations – DX is not a mult

Multiplier “Rules”

California QSO Party (CQP)

First and foremost we want the multipliers to be “easy to remember” and somewhat “mistake proof” for both casual testers and experienced testers.

Rules for the 4-character “County Multipliers for Out-of-State Entries” (58 CA counties):

- Use the first 4 characters of the county name to make them unique
 - This rule is broken for Contra Costa (CCOS) and Los Angeles (LANG)
 - Marin (MARN) and Mariposa (MARP) counties are not unique in 4 characters
- If the county name is one of the 10 counties that start with “San” or “Santa” abbreviate that part to a single “S”

Rules for the 2-character “USA/Canada Multipliers for California Entries” (USA 50, Canada 8):

- Use the US and Canada postal abbreviation
 - USA - see <http://www.usps.com/ncsc/lookups/abbreviations.html>
 - Canada- see <http://canadaonline.about.com/library/bl/blpabb.htm>
- In three cases several postal abbreviations are grouped into a single “mult”
 - MD - Maryland and District of Columbia.
 - NT - Northern Territories of NT, NU, YT (Northwest Territories, Nunavut, Yukon).
 - MR - Maritimes and Newfoundland and Labrador provinces of NB, NL, NS, PE (New Brunswick, Newfoundland and Labrador, Nova Scotia, Prince Edward Island)

Historical Note from W6OAT

Information from Rusty W6OAT on how the 8 Canadian mults were set up when he revamped the California QSO Party (CQP) rules in 1975:

“Back in the mid-1970s, there were eight Canadian multipliers in the ARRL SS contest. They were MAR-NFLD, QUE, ONT, MAN, SASK, ALTA, BC and VE8. Everybody was familiar with these eight and they were non-controversial.

Those eight, plus 50 USA states worked out to 58 mults. That seemed to correspond nicely with California's 58 county mults.

The balance between in-state and out-of-state multipliers just seemed like a neat thing to have, so we wrote the CQP rules that way.”

Common Multiplier Logging Errors

California QSO Party (CQP)

There are common multiplier abbreviation problems that can potentially result in losing points. One type of problem is not entering enough characters to clearly specify a unique California county. Here are some common problems we have seen over the years.

County abbreviation problems:

MON – This is an ambiguous abbreviation for:

MONT (Monterey county)

MONO (Mono county)

MAR – This is an ambiguous abbreviation for:

MARN (Marin county)

MARP (Mariposa county)

SB – This is an ambiguous abbreviation for:

SBEN (San Benito county)

SBER (San Bernardino county)

SBAR (Santa Barbara county)

Note: SB is the abbreviation of the ARRL section “Santa Barbara”. This is fine for ARRL Field Day, but CQP is about California counties and “SB” is not quite enough letters to clearly distinguish it from the other possibilities.

State abbreviation problems:

AL – AL means Alabama state. ALAM means Alameda county, ALPI means Alpine county.

LA – LA means Louisiana state. LANG means Los Angeles county, LASS means Lassen county.

NV – NV means Nevada state. NEVA means Nevada county.

OR – OR means Oregon state. ORAN means Orange county.

DX QSOs:

If you are not in California, DX QSO's do not count for any points at all.

If you are in California, DX QSO's count for QSO points but not multiplier credit. There are no DX multipliers. United States commonwealths, territories and possessions do not count as multipliers. The preferred QTH abbreviation for any DX station is “DX”. You may instead log the ARRL DXCC country abbreviation (e.g. G for England, DL for Germany, etc), but simply “DX” is easier for you.

12 RoverLog Shortcut Keys

Keystroke	Shortcut
Fn	Play Keyer Message <n> or QSY to Band <n>
F12	Focus to Main Window Call Entry
Control-F<n>	Net Message to Peer <n>
Alt-Key-F4	Hide Current Sub-Window
Page Down	Decrease CW Speed
Page Up	Increase CW Speed
Escape	Stop Keyer
Alt-Key-<n>	Play Keyer Message <n>
Alt-Key-+/=	QSY Up
Alt-Key--	QSY Down
Alt-Key-[	Toggle to Previous Network Peer
Alt-Key-]	Toggle to Next Network Peer
Alt-Key-a/A	Accept next WIP
Alt-Key-b/B	QSY Up/Down
Alt-Key-c/C	Popup Calculator
Alt-Key-d/D	Delete Entry from Log
Alt-Key-e/E	Edit Entry from Log
Alt-Key-f/F	Popup Station Info
Alt-Key-h/H	Show Shortcut Help
Alt-Key-i/I	Key Transmitter via RoverLog Keyer
Alt-Key-j/J	Move Rotor
Alt-Key-k/K	Popup Skeds
Alt-Key-l/L	Lookup Partial/Buds
Alt-Key-m/M	Popup Map (centered on Sent)
Alt-Key-n/N	Popup Net
Alt-Key-o/O	Change to Next Mode
Alt-Key-p/P	Popup Pass Window
Alt-Key-s/S	Popup Score
Alt-Key-t/T	Cancel Edit
Alt-Key-v/V	Save Settings
Alt-Key-w/W	Clear Entry
Alt-Key-x/X	Popup Map (centered on Recd)
Alt-Key-y/Y	Popup Keyer
Alt-Key-z/Z	Pop Callsign Off Stack
Return	Log QSO or perform other default action
Spacebar	Toggle between Call and Recd fields

Unique Sked List Shortcuts:

Keystroke	Shortcut
Page-Down	Move forward in time by one screen
Down-Arrow	Move forward in time by one sked interval
Page-Up	Move backward in time by one screen
Up-Arrow	Move backward in time by one sked interval
Alt-Key-d/D	Delete Sked
Alt-Key-e/E	Edit Sked
Alt-Key-w/W	Wipe out Sked Call and Recd
Alt-Key-[	Toggle to Previous Peer, look up his run freq
Alt-Key-]	Toggle to Next Peer, look up his run freq

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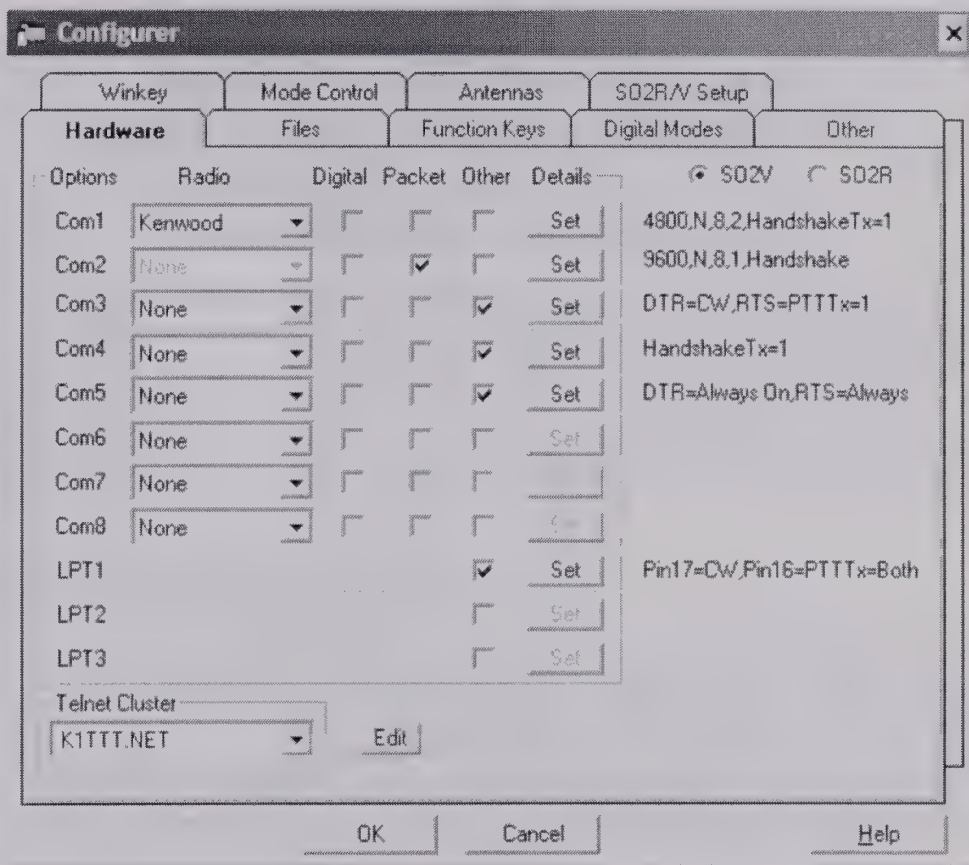
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1 Ten Easy Steps to Successful Logging.

(and no, I wasn't drinking when I wrote this)

1.1 Step 1. Setup



Get your radio, packet and telnet connections set up (Tools/Configure). You really won't be impressed without the radio connected. The program really shines when you have a spotting connection (packet or telnet).

1.2 Step 2. Adjust Window Positions

Adjust the window positions as desired by opening every window separately from the 'Window' menu.

1.3 Step 3. Connect the Sound Card and the CW interface.

Connect your sound card to the radio so that you can play wave files or record contacts. Connect your CW interface to the parallel or serial port for CW keying. See the [interface section](#) for possibilities.

1.4 Step 4. Entering a Call

The screenshot shows a software window titled "14120,00 CW Manual - A". It has a menu bar with "File", "Edit", "View", "Tools", "Config", "Window", and "Help". Below the menu bar, there are fields for "Snt", "Rcv", and "Zone". The "Snt" field contains "N1MM", the "Rcv" field contains "599", and the "Zone" field contains "5". Below these fields, there is a row of buttons: "Wipe", "Log It", "Edit", "Mark", "Store", "Spot It", and "Buck". Below the buttons, there is a row of fields: "Esc: Stop", "F1 SM1M", "F2 5NN 14", "F3 TU", and "F4 SM1M". Below this row, there is another row of fields: "F5 His Call", "F6 QSO B4", "F7 ?", and "F8 Agn". Below the fields, there is a "Running" checkbox and a "20" field. Below the "Running" checkbox, there is a text field containing "Bearing = 302°, 4066 mi, 6544 km, LP = 122°". Below the text field, there is a row of fields: "K - United States, Zone 5, NA", "0/0/0", and "0".

Ok, now we are ready to log. By default, you should be in the General log – look at the log window caption. So you want to log a qso? Type in the callsign field from the Entry Window the call of the station you want to log. Let's say you type 'N1MM'. Notice that the Check window shows calls with N1 in it, later N1M and finally only N1MM. This will happen with any call or partial call 2 or more characters long. Use the mouse and click on N1MM. Notice that N1MM will be filled in the callsign field, defaults will be set for fields who can have defaults (in this case the rst fields) and the cursor will be placed in the next field to be filled in -- the name field.

1.5 Step 5. Using the Space Bar to Tab

Ok, that's cool, lets try it another way. Click on the Wipe button to clear the Entry Window fields. Your cursor will be positioned on the callsign field again. This time Type 'N1MM' and press ****SPACE****. Notice that the rst fields are again filled automatically and you are positioned to the next field to be filled in. Enter 'Tom' and press SPACE. In this case, you will not tab to the next field, since space is a legitimate character in a name. This is atypical behaviour. Most contest fields do not allow any spaces in them, so the space bar will jump from field to field. You'll like this, dammit! Really, I think you *will* like it – particularly in contests.

1.6 Step 6. Using the Tab Key

So if SPACE tabs, what does Tab do? It tabs as well! But it doesn't tab like space. The Tab character (and shift-Tab) behave like they do in most programs. They jump from field to field, without trying to be smart. So if you need to change the rst, you'll use the tab key to get there.

1.7 Step 7. Bandmaps, Spots and Other Cool Stuff

THE HISTORY OF THE CITY OF BOSTON

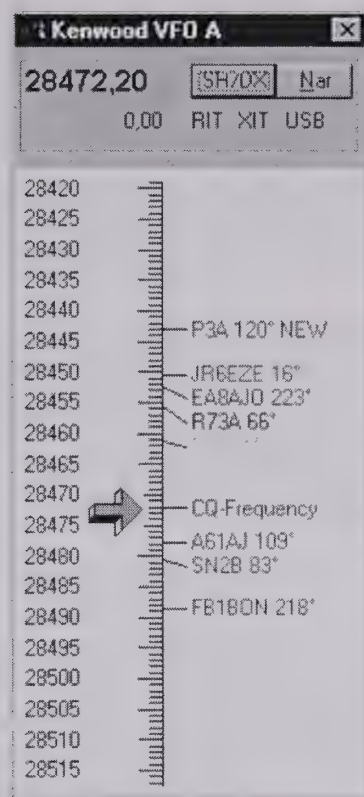
FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME
BY
JOSEPH NEALE

VOLUME I
FROM THE FIRST SETTLEMENT
TO THE YEAR 1630

THE HISTORY OF THE
CITY OF BOSTON
FROM THE FIRST SETTLEMENT
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VOLUME II
FROM THE YEAR 1630
TO THE PRESENT TIME

THE HISTORY OF THE
CITY OF BOSTON
FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME
BY
JOSEPH NEALE



Ok now the really cool part. We need to get some spots onto the bandmaps. If you have set up a radio, you should have two bandmaps, and they should be displaying the frequencies of your A and B VFOs at the top. So how do we get spots on there? We need to connect to packet or telnet, of course. If you have an Internet connection, try telnet, if a packet connection, well I guess you'll try packet. To pick, click on the appropriate tab in the Packet Window. To connect to packet, just type a command in the "Enter Command" window, like "C K1TTT" and press enter. Just do your usual stuff. Then type sh/dx/100 (we want a lot of spots) if it's a weekend, otherwise just type sh/dx/30. (Why the difference? The logger won't show old spots – the default is 60 minutes.

To use telnet, you must choose a telnet server. This you do in the configuration screen (you didn't skip step 1, did you?). I don't want to recommend one, for fear of overloading it, so try one, close the configuration window and type your call in the "Enter Command" window and press enter. Answer the questions, then type sh/dx/100 (we want a lot of spots) if it's a weekend, otherwise just type sh/dx/30. (Why the difference? The logger won't show old spots – the default is 60 minutes.

1.8 Step 8. Spots are Fun!

Spots should start appearing. Don't be afraid, there is no leopard. (Get it, spots?) Enough dumb jokes. Anyway, that's what people always tell me. So, what can we do with the spots? Lots of stuff. First note that each spot (except US and VE spots and spots from your own country) has it's beam heading next to it. (Well it has the beam heading from my house, too bad if it isn't the beam heading from your house. If you really want to fix that, go to the *station dialog* in Config/Change Your Station Data – you'll need to enter your latitude and longitude. If you don't know your latitude and longitude, tough – this isn't geography class, kid.)

Are we ever going to get to the good stuff? Sigh. Ok. You have spots in your bandmaps. Try SINGLE clicking on one. Notice how the radio tunes to the frequency of the spot? Also notice that the call appears in the frame around the callsign textbox in the Entry Window. Now press that magic

space bar again. The spot jumps into the call textbox! Let's try this another way. Click on the Wipe button (or press Ctrl-W). Now tune the radio to a frequency within 300 Hz of another spot. Notice that the call again appears in the frame, and again the space bar will enter the call into the call textbox.

Ok, try Wiping again (either way). Now double click on a spot. Notice that again, you jump to the frequency of the spot, but this time the call is entered in the callsign field and the default fields are filled in, and you are ready to copy the next empty field (in this case name).

Wipe just one more time. Let's try jumping around the spots without using the mouse. Your cursor should be in the callsign field. If it isn't put it there. Now press Ctrl-uparrow or Ctrl-downarrow. You should jump from spot to spot on the same band. Pick one of the spots where you can hear the station. Use the up and down arrow keys (no Ctrl this time) to tune the station in. Each press of the key will go jump 100 Hz on SSB and 20 Hz on CW (configurable). You're smiling, aren't you? There is a lot more. Go look here for more keyboard tricks: [Key Assignments](#)

1.9 Step 9. Actually Logging Contacts

We need to shift attention to actually logging contacts. Enter a call in the call textbox, press space and then type a name, well any name except 'Arthur' in the name textbox. (I'm sorry, I really cannot be responsible if you type Arthur.) You typed Arthur, and nothing happened, didn't you? Now you're angry. Here's a quarter.... Ok. Back on task. You have enough to log a contact now. Press enter, and notice that the contact will appear in the Log Window.

Now the fun part. Enter the same callsign again and press space. Looky, looky! The usual stuff happens, but two more things happen as well. The first contact shows up in the lower part of the Log Window, and the name from the first contact appears in the name field. If you were logging a contest, like ARRL DX, the power would be filled in from the first contact. If the first contact was on the same band as this contact, then the word "DUPE" in *BIG RED LETTERS* would appear. I was going to put the word "Dope", but then I thought that no one would want to use the program. Really, you should probably work the dope, I mean dupe, since you might not be in his log. It's actually easier to just work him than explain "You're a dupe, dope!"

Ok, press enter and log the dupe. You don't agree with me about logging dupes? Then RIGHT-click on the Log Window entry for the dupe, and choose delete contact. No, I'm not going to tell you what to do with the dialog box that pops up. I trust you. I feel like we are already friends.

1.10 Step 10. The Exciting Finale

Now for the exciting finale, if I called it the boring finale, you wouldn't read it now, would you? It is kind of boring, but I really couldn't trust you to get this far now could I? This step is about all the wonderful things you can change about this program. If I tried to explain them all, you wouldn't read it, so here is just a little bit. Look at the Edit menu. Here you can change the usage of many of the buttons in the program, like the CW buttons, packet, telnet, etc.

The Tools menu lets you rescore the contest and reload the country (mostly CTY.DAT) file using 'Import country list from downloaded file'. The Config menu lets you change state tables, section tables, not to mention the exciting Configuration options that we all know and love by now.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF THE HISTORY OF ARTS
AND ARCHITECTURE

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AND ARCHITECTURE

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AND ARCHITECTURE

1.11 Step 11. CW and WAV Recordings

"Hey wait," you say, "You said there were 10 easy steps – what's this number 11 business?" There is a very simple answer. I lied. I wanted to write only 10, but I forgot to tell you about the CW and SSB buttons. They are preset at the factory (ok, at my house), to be very useful to only me. Try them anyway. If you have a CW interface, the CW buttons will send pretty damn good CW, even when you are doing other things like moving windows around. You had better appreciate this, because it was very hard to code, and I am very proud of it.

The same buttons are used in SSB to send WAV files. While this seems much harder, it was actually quite easy, but it's ok if you are impressed. I don't care, so long as you are impressed. You don't need to hook up your radio to enjoy this wonderful feature, just hook some speakers to your sound card and listen to my melodious voice call CQ as you click on the CQ button. In a real contest, however, you'll want to hook up the output of the sound card to your microphone input through a Radio Shack audio transformer and resistor setup. The high impedance side (with a 100k series resistor) goes to the microphone input, the low impedance side goes to the sound card speaker out. Of course you'll need to adjust the levels using the software that comes with your operating system or sound card. See the [interface section](#) for more info.

This thing will record qso's as well, but I'll let you find that in the help files.

I hope you have enjoyed this quick tour as much as I have enjoyed writing it. And for the second time, no, I was not drinking when I wrote this.

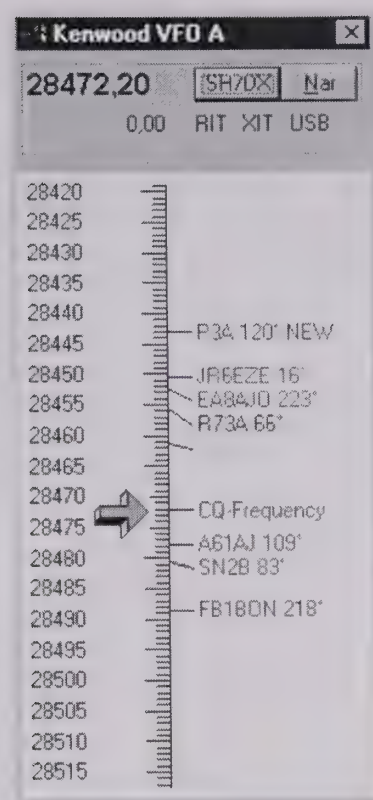
Page 1 of 1

In addition to maintaining accurate records, it is also important to ensure that all transactions are properly authorized. This means that only those individuals who have been designated as authorized personnel should be allowed to initiate or approve transactions. This helps to prevent fraud and ensures that all transactions are in accordance with the organization's policies and procedures.

2 N1MM Free Contest Logger



2.1 General Overview

The N1MM Logger is a **freeware** program designed to do contest logging and some general logging. It is not a general logging program with award tracking etc. but it is mainly a contest logging program. Check the Features listing.

Important! The usefulness of this program is greatly enhanced by reading the Key Assignments

The Quick Tour is another *must read*.

These are the Supported Contests and the Supported Radios.

The program can be used on Windows 95/98/ME and on Windows NT/2000/XP. DOS is not supported.

2.2 N1MM logger discussion group

This group discusses features, bugs, and ideas for the N1MM Free Contest Logger.

- Do you have questions/remarks
- Here you want to go: <http://groups.yahoo.com/group/N1MMLogger>

2.3 Documentation

The documentation for this program is available in three different forms

- On the Internet on the N1MM logger homepage, select 'View Help files'.

- As the programs Help file (N1MMLoggerHelp.chm)
- As a PDF file (N1MMLogger.pdf) which can be viewed and printed with Adobe Acrobat Reader (Version 3 or higher)

Both the Help file (CHM file) and the manual (PDF file) can be accessed while in the program. For this to happen the files should be placed in the N1MM logger program directory.

2.4 Group Email Addresses

Post message: N1MMLogger@yahoogroups.com

Subscribe: N1MMLogger-subscribe@yahoogroups.com

Unsubscribe: N1MMLogger-unsubscribe@yahoogroups.com

List owner: N1MMLogger-owner@yahoogroups.com

2.5 Programming specifics

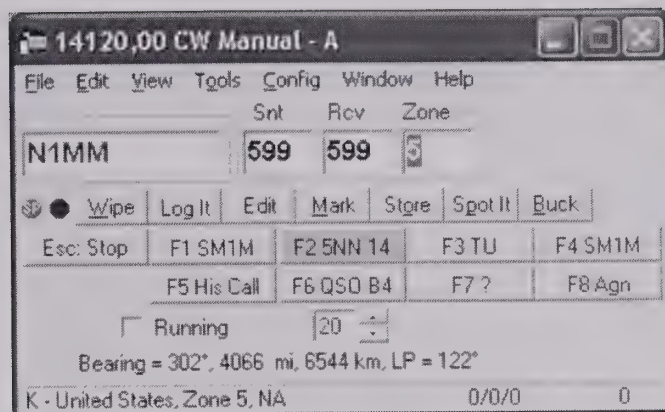
- Coded in Visual Basic 6.0 using no aftermarket controls.
- Current exe size (p-code) about 2200 kB.
- 29 Forms, 18 Modules, 67 Classes.
- 71718 lines of code (57156 lines without the window controls).
- Uses one freeware dll for lpt port control.
- Database is Access 2000.
- Uses data-bound controls for log and check functions.
- Uses MMTTY for soundcard RTTY support
- Uses PSKCore for soundcard PSK support (PSK31 and PSK63)
- Open source project.

The logging program has been designed to work on a Pentium II 233 MHz as a minimum platform. Thus, it runs reasonably on a 233 Pentium II. Whether it can run as designed on slower speed machines is to be determined. It has not been and won't be a priority to make it run on clunkers.

2.6 Program development?

N2AMG, PA1M and I develop the software. It is a cooperative development venture. If you have programming or other skills we'd be interested in your help. To help develop, you'll need your own copy of .Visual .Basic 6.0 PE or EE. A copy of .Access 2000 is helpful, but not required. Contact N1MM to discuss working on this project.

3 Features



- All major HF Contests are supported including General DX logging, DXpedition and DXSatellit .
- Uses sound card for dvk.
- Contact recording to wav files. Right-click on log entry to play back.
- Automatic CW generation.
- RTTY support for MMTTY, HAL DXP38 and other external TNC's (like PK-232)
- PSK31 and PSK63 support.
- The program retains the size and position of windows as specified by the user. The windows below are shown tiled, but they may overlap as desired.
- The main windows (Main, Log, Bandmaps, Packet, Check, and Available Mults and Q's) are non-modal. That is, you can interact with any of them without having to close the last window used.
- Available Window keeps track of needed spots & mults on each band for easy band-change decisions. Color-coded buttons indicate on which bands the current contact is needed.
- Radio interface to support radios from Kenwood, many Yaesu (for example: FT-1000, FT-1000MP, FT-990, FT-920 and more), Icom and Elecraft.
- Click on packet spot in packet window to tune to that frequency/mode.
- Spotted stations appear on callsign textbox frame when you tune near a spot. A touch of the space bar will enter that call into the callsign field.
- Mode-aware fine tuning from the keyboard.
- Automatic beam heading and sunrise/sunset calculations.
- Check partial function.
- Packet & Telnet support – spots from both automatically update the band maps.
- Packet spot filtering
- CW sending from the keyboard.
- Dual graphical bandmaps click to tune radio to the spot selected. The bandmap can be zoomed in or out depending on number of spots showing.
- Two radio support. Two VFO support when using one radio. One VFO/Bandmap. The image below is of a one-radio configuration.
- Multiplier window.
- LPT port functionality to control antenna switches, radio selected, and PTT (95/98/ME/NT/2000/XP)
- Multi-user support.
- Cabrillo export support.
- ADIF import/export support.
- All data is stored in an Access 2000 database to facilitate reporting and future integration with other software.
- Two monitor support (Requires Win 98 or better)
- S&P QSO stack
- Call stacking

- Spot all S&P calls locally (QSYing wipes the call & spots QSO in bandmap)
- Transverter support (SHF bands supported up to 10, 24, 47, 76, 142 and 241 GHz)
- Winkey support (Serial CW keyer by K1EL)
- Antenna mapping
- SO2R/SO2V support.
- Many more..

Near future

- User-settable band ranges for cw, ssb, rtty, psk
- Rotator control

4 Minimal PC Requirements

4.1 Minimum hardware requirements

The logging program has been designed to work on a Pentium II 233 MHz as a minimum platform. Thus, it runs reasonably on a 233 Pentium II. Whether it can run as designed on slower speed machines is to be determined. It has not been and won't be a priority to make it run on clunkers, but I am very close to making it work well on Pentium I.

The graphical resolution is minimal 800 by 600, but much better is 1024 by 768 or more to get all windows on the screen.

A lot of free serial ports is nice to have, this for connecting the radio (or radio's) and packet radio. CW-keying and PTT-ing the radio can be done through a free serial but also by a free parallel port.

For PTT-ing MMTTY an extra serial port is needed.

For more info see the [Radio Computer interfacing](#) section.

4.2 Supported Operating systems

- Windows 95
- Windows 98
- Windows ME
- Windows NT
- Windows 2000
- Windows XP
- and probably future Windows versions.

1. Introduction

The purpose of this document is to provide a comprehensive overview of the project's objectives, scope, and deliverables. It is intended for use by all stakeholders involved in the project, including the project manager, team members, and sponsors.

The document is organized into several sections, each covering a specific aspect of the project. The sections are as follows:

1. Introduction: This section provides an overview of the project and its objectives.

2. Project Scope: This section defines the project's boundaries and the work that will be performed.

2. Project Scope

The project scope is defined by the following elements:

- Project Objectives: The project aims to develop a new software application that will improve the efficiency of the company's operations.
- Project Deliverables: The project will deliver a fully functional software application, along with user manuals and training materials.
- Project Constraints: The project is constrained by a fixed budget and a strict timeline.

The project scope is further defined by the following table:

Project Objectives	Project Deliverables	Project Constraints
Develop a new software application that will improve the efficiency of the company's operations.	Fully functional software application, user manuals, and training materials.	Fixed budget and strict timeline.

The project scope is further defined by the following table:

Project Objectives	Project Deliverables	Project Constraints
Develop a new software application that will improve the efficiency of the company's operations.	Fully functional software application, user manuals, and training materials.	Fixed budget and strict timeline.

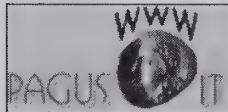
The project scope is further defined by the following table:

Project Objectives	Project Deliverables	Project Constraints
Develop a new software application that will improve the efficiency of the company's operations.	Fully functional software application, user manuals, and training materials.	Fixed budget and strict timeline.

5 Installation and Upgrading

5.1 Downloading the software

- The software can be downloaded via the links shown below.
- Be sure to download the latest exe after downloading the basefile N1MM.zip. There have been a number of fixes applied since the base install files were created. An e-mail will be send out periodically to announce new versions to the group.
- Also download the latest Help file and optionally the latest PDF version of the Help file.
- For serial and parallel port support, download DLPORTIO.ZIP. (Windows NT, 2000 and XP users only)
- Download MMTTY when RTTY is your passion.

1	Netherlands	Italy
	 Download from www.kms.nl/n1mm – Dutch site kindly donated by PA8AD / PI4DEC <u>Download N1MM.zip</u>	 Download from WWW.PAGUS.IT/~n1mm – Italian site kindly donated by I8NHJ <u>Download N1MM.zip</u>
2	Download the latest NewexeVx.x.xxx file (1 MB) from:	<u>www.n1mm.com</u> and select in left menu: <u>Download latest Update</u>
3	Check the revision number and revision date of the Help/Manual. It's shown on the bottom of the first page:	<u>HtmlDocTitlepage.htm</u>
4	Download the Windows help file (1,6 MB).	<u>N1MMLoggerHelp.chm</u> (right click on link and choose: Save As)
5	(Windows NT, 2000 and XP users only) For CW serial and parallel port support, download: DLPORTIO.ZIP (800 kB) or PORT95NT.EXE (1,6 MB)	<u>dlportio.zip</u> (you need to do some work here) OR <u>port95nt.exe</u> (just run the exe and done) For more information look at <u>Interfacing page (32 bit OS part)</u>
6	Download the PDF version of the help, suitable for printing (3 MB).	<u>N1MMLogger.pdf</u> (right click on link and choose: Save As)

7	Update the Country file (cty.dat or wl_cty.dat). Don't forget to import the country file under Tools!	http://www.k1ea.com/cty/index.htm Look for install information on: <u>Customizing the DXCC list</u>
8	Update the Master Callsign database (master.dta). Copy file in the 'Program folder'. N1MM logger supports the CT-format master.dta file.	http://www.datomonline.com/supfiles.html or http://members.buckeye-express.com/k9tm At the top of the page, click the Master Callsign Databases link.
9	Download MMTTY from the MMTTY homepage.	http://www.gsl.net/mmhamsoft/ Look for install information on: <u>RTTYConfig.htm</u>

5.2 First-Time Install Instructions

1. You can download the files via the links mentioned above.
2. Download the big installation file **N1MM.ZIP** (use link above).
3. Unzip all files from **N1MM.ZIP** into the same directory (e.g. c:\N1MMInstall). When using Winzip you must use version 7.0 or later.
4. Run setup to install the software in a directory. The default is 'C:\Program Files\N1MM Logger'
This directory where the program is installed will be called the 'program directory' from now on.
5. Download the NewexeVx.x.xxx file upgrade file (use link above).
 - ◆ The upgrade file is called **NewExe(Version).zip** (Example: NewExeVx.x.xxx.zip)
 - ◆ The version number is also shown in the description of the file.
 - ◆ This file contains: the latest exes and other necessary files.
 - ◆ Only the last update is necessary, not all updates before...
6. Just unzip it and copy all the files into the N1MM Logger program directory replacing any old version.
7. Download the Help file and the Manual. The Help file and manual are maintained separately from the program and follow it as close as possible.
 - ◆ The revision number and revision date are shown on the first page (use link above).
 - ◆ The Windows Help file is called *N1MMLoggerHelp.chm* (use link above).
 - ◆ The Manual called *N1MMLogger.pdf* (use link above).
8. Just copy the files into the N1MM Logger program directory (replacing any old version). The files can be accessed while in the program but also separately. For the PDF file Adobe Acrobat Reader version 3.0 or higher is needed.
9. (Windows NT, 2000 and XP users only) DLPORTIO – Needed to support LPT and serial ports. The installed code is tiny, the distribution rules require keeping this 800k file. You must install this as the administrator of your machine. See section 3.2 of the documentation for install instructions.
10. Update the country file by selecting 'Import country list from downloaded file' under Tools.
11. Download the latest master.dta file and copy it in the program directory. N1MM logger supports the CT-format master.dta file.
12. Optional: Download MMTTY for RTTY with the soundcard.

5.3 Subsequent Install Instructions / Upgrading to a new program version

1. Download ****only**** the NewexeVx.x.xxx file [upgrade file](#) (use link above).
 - ◆ The upgrade file is called NewExe(Version).zip (Example: NewExeVx.x.xxx.zip)
 - ◆ The version number is also shown in the description of the file.
 - ◆ This file contains: the latest exes and other necessary files.
 - ◆ Only the last update is necessary, not all updates before...
2. Just unzip it and copy all the files into the N1MM Logger program directory replacing any old version.
 - ◆ When a new cty.dat file is added to the newexe file import it by selecting 'Import country list from downloaded file' under Tools.

An e-mail will be send out periodically to announce new versions to the group members.

5.4 Upgrading the Help file and Manual

1. The Windows Help file and Manual are maintained separately from the program and follow it as close as possible. So when checking for a new program version also check if a new version of the Help/Manual is present. The revision number and revision date are shown on the first page (use link above).
 - ◆ The Windows Help file is called *N1MMLoggerHelp.chm* (use link above).
 - ◆ The Manual called *N1MMLogger.pdf* (use link above).
 - ◆ Check the version of the file. The revision number and revision date are shown on the first page (use link above).
 - ◆ Download the Help file or Manual if a newer version is present.
 - ◆ Copy the file(s) into the N1MM Logger program directory replacing the old file(s).
 - ◆ The Help file can be accessed while in the program with Alt-H or from the Help menu but also separately from within Windows.
 - ◆ The Manual can be accessed while in the program from the Help menu (Manual) but also separately from within Windows. Adobe Acrobat Reader version 3.0 or higher is needed to display the file and has to be installed. For a paper version of the Manual/Help, this is the file to print.

An e-mail will be send out periodically to announce new versions to the group members.

5.5 Using the Program the First Time

- The first thing to do after starting the program is setting up the station information.
 - ◆ This can be done in the 'Change Your Station data' dialog.
 - ◆ The first time the program starts automatically with this dialog.
 - ◆ This dialog can also be found under: Config / Change Your Station Data
- After that configure the radio and packet and/or telnet connection.
 - ◆ Choose Config/Configure ports, Telnet Address, Other
- The packet buttons and main window function buttons can be changed.
 - ◆ See the Config menu.
- Alt-H is help.
- Space is the preferred Tab character (see Help).
- Read the Help/Manual!!! but at least:
 - ◆ [Quick Tour](#)
 - ◆ [Using the Program](#)

- ◆ Setting up the Program
- ◆ Entry Window
- ◆ Key Assignments (this one should be printed and placed near the radio)
- ◆ Basic Functions

5.6 Become a Tester and Report Problems

- If you want to become a tester, please join the Yahoo discussion group at <http://groups.yahoo.com/group/N1MMLogger/join>. This way you will receive information on bug fixes and new versions. This is especially important during contests, should there be a serious bug. Give out the Yahoo url.
- Be sure to download the latest exe. There have been a number of fixes applied since the base install files were created. An e-mail will be send out periodically to announce new versions to the group members.
- Please indicate the version number on your problem report e-mail's, so that I can determine if the problem has already been fixed. The version number displays on the "splash" screen (the one with the tower) on start-up or can be seen in the Help/About window.
- Please report bugs. If I don't know about them, I can't fix them. This is a freeware project. It depends on volunteers like you. The quality of this software is directly proportional to the quality of testing. Thanks for your help!
- To qualify as a tester, you need a Pentium II class PC and if possible a packet cluster and radio connection.

5.7 Uninstalling the program

- Removing the program from the computer or when installing the program from scratch do the following:
 - ◆ To clear the registry settings, run *clearregistry.bat* (in the N1MM logger directory)
 - ◆ Go in control panel. and select 'add/remove programs', select 'N1MM logger

THE HISTORY OF THE CITY OF BOSTON

FROM THE FIRST SETTLEMENT TO THE PRESENT TIME

BY
JOSEPH NEALE, ESQ.
OF THE BARR, AT THE MIDDLE TEMPLE, IN GREAT BRITAIN.
IN TWO VOLUMES.
LONDON: PRINTED BY J. JOHNSON, ST. PAULS CHURCH-YARD, 1796.

THE HISTORY OF THE CITY OF BOSTON, FROM THE FIRST SETTLEMENT TO THE PRESENT TIME, BY JOSEPH NEALE, ESQ. OF THE BARR, AT THE MIDDLE TEMPLE, IN GREAT BRITAIN. IN TWO VOLUMES. LONDON: PRINTED BY J. JOHNSON, ST. PAULS CHURCH-YARD, 1796.

6 Setting up the Program

When you want to use the program you need to know how to connect the radio(s), packet or Telnet etc. to the program. Also the Exchanges need to be setup for the contest. Below some information how this could be done. Next to reading this chapter also read Basic Functions, the Key Assignments and the Quick Tour to have basic program information.

- Setup station information
- Setting up radio control
- Setting up packet/telnet
- Setup up wav files (SSB)
- How to send messages in CW?
- Setting up the exchanges
- How to set up function keys with 'Enter mode'

6.1 Setup station information

The information in the Station dialog is self-explanatory. Make sure that you enter your call as the station call sign. Many of the fields in this dialog are used in creating contest entries, so do update them with their correct values. Like calculating beam headings, distances, sending a bug report via e-mail etc.

6.2 Setting up radio control

The program really shines when a radio is connected so that is what we have to do.

- Check if the radio is supported by the program in the Supported Radios chapter. If not... you have no luck.
- So it is.
 - ◆ It is connected right (cable from radio to a serial port from the computer).
 - ◇ Sometimes a serial interface is needed, see the manual and the interfacing section.
 - ◆ Go to the Configurer and fill in the information under the hardware tab.
 - ◇ Select the serial port the radio is connected to and choose the radio behind it.
 - ◇ Select the 'Set' button and choose the right setting. (baudrate, databits etc).
 - These can be found in the manual of the radio.
 - There is also some information in the Supported Radios chapter.
 - ◇ Press OK, select VFO A and the frequency from the radio should appear in bandmap A.

6.3 Setup packet/telnet

We need spots to fill the bandmaps so the next thing to do is attach a dx cluster. This can be done in the Configurer under the hardware tab for telnet and packet. For telnet a Internet connection is needed.

The telnet cluster to connect can be selected, yes again in the Configurer under the hardware tab.

- Go to the Configurer and select the hardware tab.
- Select at the bottom a telnet cluster. AB5K is default selected (AB5K) and works fine.
- Select the 'Telnet' tab on the Packet Window.

THEORY OF THE EARTH

The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.

THE EARTH'S CRUST

The earth's crust is the outermost layer of the earth. It is composed of various rocks and minerals.

The crust is divided into two main parts: the continental crust and the oceanic crust.

The continental crust is thicker and is composed of various types of rocks, including granite and gneiss.

The oceanic crust is thinner and is composed of basalt and other igneous rocks.

THE EARTH'S MANTLE

The mantle is the layer of the earth beneath the crust. It is composed of various types of rocks and minerals.

The mantle is divided into two main parts: the upper mantle and the lower mantle. The upper mantle is the layer immediately beneath the crust, and the lower mantle is the layer beneath the upper mantle.

THE EARTH'S CORE

The core is the innermost layer of the earth. It is composed of various types of rocks and minerals. The core is divided into two main parts: the outer core and the inner core.

The outer core is the layer immediately beneath the mantle, and the inner core is the layer beneath the outer core.

THE EARTH'S SURFACE

The earth's surface is the part of the earth that is visible to the eye. It is composed of various types of rocks and minerals.

The surface is divided into two main parts: the land and the water.

The land is the part of the surface that is not covered by water, and the water is the part of the surface that is covered by water.

The land is composed of various types of rocks and minerals, and the water is composed of various types of water.

THE EARTH'S HISTORY

The earth's history is the study of the events that have shaped the earth and its features. It is a science which seeks to explain the processes which have shaped the earth and its features.

The earth's history is divided into two main parts: the geologic time scale and the geologic time scale.

THE EARTH'S FUTURE

The earth's future is the study of the events that will shape the earth and its features. It is a science which seeks to explain the processes which will shape the earth and its features.

- ◆ Cluster commands can be given here, the information from the cluster is shown in the window.
- ◆ See the Packet window for commands, info etc.
- ◆ Connecting a Telnet cluster is usually done by sending your callsign.
- ◆ When everything works fine, spots should appear in the bandmaps.

This is also the place to select the right parameters for setting up a packet TNC.

- The TNC should be connected to a serial port from the computer
 - ◆ The TNC could be checked with Hyperterminal to see if it responds fine.
- Go to the Configurer and select the hardware tab.
- Select the serial port the TNC is connected to and select the 'packet' selection box.
- Select the 'Set' button and choose the right settings (baudrate, databits etc).
- Select the 'Packet' tab on the Packet Window.
 - ◆ Cluster and TNC commands can be given here, the information from TNC and cluster is shown in the window..
 - ◆ See the Packet window for commands, info etc.
 - ◆ When everything works fine, spots should appear in the bandmaps.

6.4 Setup up wav files (SSB)

The sound (wav) files which have to be made have some standard texts, some are contest dependant.

There are two kind of sound files used by the program.

- Files used by the function keys
- Sound files used to send the callsign or number
 - ◆ by sending single sound files for each letter and number
 - ◆ or by sending the full callsign or numbers when found in the wav directory

6.5 How to send messages in CW?

You need to do two things:

2. Set the message properly in Config/ Change Packet/CW/SSB/Digital Message Buttons/ Change CW Buttons. The first 8 rows are the run messages for F1–F8. The second 8 rows are the S&P messages for F1–F8. If you have less than 9 messages, the S&P messages will just repeat the Run messages.

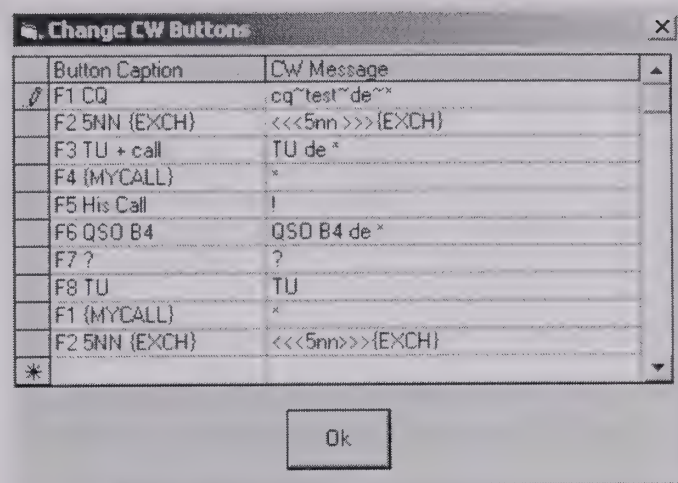
1. The first part of the document is a letter from the President of the United States to the Congress, dated January 3, 1862. It is a very important document, as it contains the President's views on the state of the Union and the progress of the war.

2. The second part of the document is a report from the Secretary of the War Department, dated January 10, 1862. It contains a detailed account of the military operations of the Army during the year 1861, and a statement of the condition of the Army at the beginning and end of the year.

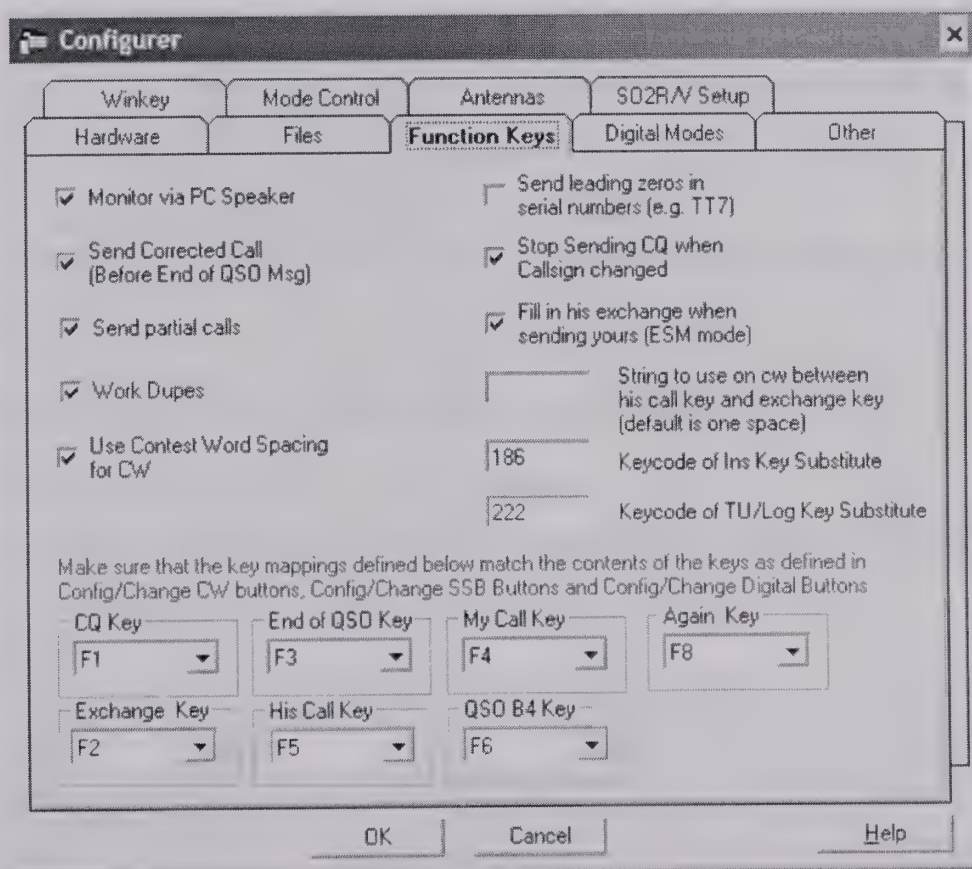
3. The third part of the document is a report from the Secretary of the Navy Department, dated January 10, 1862. It contains a detailed account of the naval operations of the Navy during the year 1861, and a statement of the condition of the Navy at the beginning and end of the year.

4. The fourth part of the document is a report from the Secretary of the Department of the Interior, dated January 10, 1862. It contains a detailed account of the operations of the Department during the year 1861, and a statement of the condition of the Department at the beginning and end of the year.

5. The fifth part of the document is a report from the Secretary of the Department of the Treasury, dated January 10, 1862. It contains a detailed account of the operations of the Department during the year 1861, and a statement of the condition of the Department at the beginning and end of the year.



1. Make sure that the function key tab in the main configurer (Config/Configure Ports, Telnet Address, Other) has each button set to its correct meaning. I.e. if F1 is your CQ key as set in the messages (#1 above), then make sure that the "CQ Key" box is set to F1.



To send the serial number in any message, put the character # as part of the CW message in #1 above. There is a list of other characters that you can substitute.
The macros which can be used and some examples can be found on the [macros page](#).

6.6 Setting up the exchanges

- This program is like no other I've used for setting up the exchanges, don't try to make sense of it and move on.
I'm assuming you want to set up for the **RTTY test**.
- Go to Config, Ports, telnet and then Function keys.
 - ♦ If you plan to use Enter Sends Message swap F5 and F3:
 - ◊ 'End of Qso Key' to F5
 - ◊ 'His call' to F3
 - ♦ Now go to config, Change Packet/CW/SSB/Digital Message Buttons, Change Digital Buttons.
 - ◊ They are displayed in order starting with F1.
 - ◊ Change the F4 key to read &WW3S in the one column and WW3S in the other.
 - The & just tells the button what caption to display.
 - ◊ Now change the F2 to read 599-599 and your cq zone.
 - Mine reads 599-599 PA PA 05 05 BK.
 - Starting to make sense? Whatever you change here is what will be sent.
 - If you use 'Enter sends message' the corresponding F-key **also** needs to be set in Config, Ports/Telnet, Change function keys.
 - **THESE KEYS NEED TO MATCH OR "ENTER SENDS MESSAGE" WILL NOT WORK!!**
 - ◊ Set your F3 key for however you want your "End of qso" to be sent.
 - Mine reads TU QRZ DE WW3S WW3S TEST.
 - ◊ F1 read CQ CQWW TEST DE WW3S WW3S TEST.
- These all get changed in change digital buttons. BTW, the same logic applies in CW.

73 Jamie WW3S

6.7 How to set up function keys with 'Enter mode'

Below an example of a possible setup from Jose, CT1AOZ.

Setup the function keys (Config | Configure Ports, Telnet Address, Other | Tab: Function Keys)

CQ Key	F1
Exchange Key	F2
End of QSO Key	F3
His Call Key	F4
My Call Key	F5
QSO B4 Key	F6
Again Key	F8

Enable all check box options except Monitor via PC speaker (but you may if you want to).

Now set the " MACROS " in the "Config|Change CW buttons", the same settings are used for the

SSB and the RTTY buttons.

Button Caption	CW message / .WAV file /Text to Send
F1 CQ	CQ CQ **
F2 Exch	<<< ENN >>>#
F3 TU	TU *
F4 My	*
F5 His	!
F6 QSOB4	! QSOB4 TU * QRZ
F7 His/TU	! TU
F8 Again	! AGN PSE *
Shift-F1 QSY	PSE QSY QRL *
Shift-F2 Exch	<<< ENN >>>#
Shift-F3	
Shift-F4 My	*
Shift-F5 His	!
Shift-F6 QSOB4	! QSOB4 DE *
Shift-F7 Corr	
Shift-F8 Again	

As Jose writes: Try this and I'm sure you will be happy with the performance of the program and the ENTER KEY MODE...

7 Basic Functions

When using the program there are some standard routines like changing frequency, band and mode. Next to reading this chapter also read the [Key Assignments](#), [Setting up the Program](#), [Entry Window](#) and the [Quick Tour](#) to have basic program information. There are also some features which will be explained in this chapter like 'Running' mode, Search and Pounce' mode and 'Enter Sends message' mode etc. Operating tips and tricks can be found in the [Tips and Tricks](#) chapter.

- [Resizing windows](#)
- [Help](#)
- [Changing Frequency](#)
- [Changing Band](#)
- [Changing Mode](#)
- [Changing Operator](#)
- [Split Operation](#)
- [Running Mode](#)
- [Search and Pounce Mode \(S&P mode\)](#)
- [Enter Sends Messages Mode \(ESM mode\)](#)
- [Call Stacking](#)
- [QSYing wipes the call & spots QSO in bandmap](#)
- [Connecting a telnet cluster](#)
- [How to save the log](#)
- [Backup and Restore](#)

7.1 Resizing Windows

Logger's windows can be located where ever the user chooses and most can be made any size. The Entry Window is an exception, it cannot be resized. The Bandmap and Check windows cannot be made wider, but can be made longer or shorter. The Packet window can be made any size. The new dimensions and positions of the windows are stored when the program is closed. Closing the Entry window will close the application. All qso's are saved permanently to the hard drive as they are logged.

7.2 Help

Almost every window has a Help function. To get to the help, right click on a window, or click on the help button. The Entry window help can be accessed from the Help menu at the top, or by pressing Alt-H. Also note that the Key Assignments help can be accessed directly from the Help menu on the Entry Window. Note that you can print any help topic from the help system by clicking the Print button. Most of the help files displayed will be for window in which you select the help. This makes it easier to find the topic you are interested in.

7.3 Changing Frequency

Changing frequency can be done in many ways. Below a short list with some possibilities.

- Just turn the dial or change band on your radio, the program will follow if connected.
- Enter a frequency in the Entry window 'callsign' field. Example: 14200,5 will jump to 14.200,5 MHz. The mode will be changed when needed following the bandmap rules.
- Enter an offset in the Entry window 'callsign' field. Example: Current frequency = 14200 Enter +3, frequency will jump to 14.203 MHz

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530 SOUTH EAST ASIAN AVENUE
CHICAGO, ILLINOIS 60607-7070
TEL: (773) 936-7000 FAX: (773) 936-7001
WWW: WWW.CHEM.UCHICAGO.EDU

RECEIVED
JAN 10 1997
FROM: [illegible]
TO: [illegible]
SUBJECT: [illegible]

RE: [illegible]
DATE: [illegible]
FROM: [illegible]
TO: [illegible]
SUBJECT: [illegible]

RE: [illegible]
DATE: [illegible]
FROM: [illegible]
TO: [illegible]
SUBJECT: [illegible]

RE: [illegible]
DATE: [illegible]
FROM: [illegible]
TO: [illegible]
SUBJECT: [illegible]

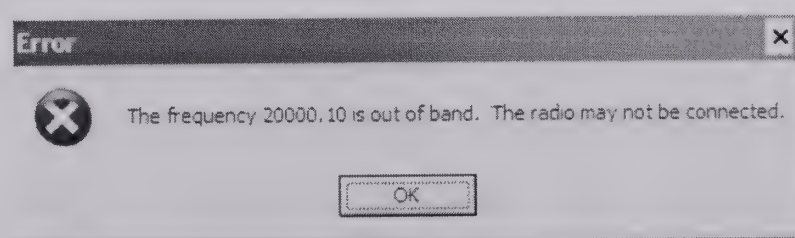
- Enter an offset from the beginning of the Mhz in the Entry window 'callsign' field. Example: Current frequency = 14200 Enter 123 and the frequency will jump to 14.123 MHz
 - ◆ Placing a / in front of the frequency or offset will set the second VFO (B). Example: /12200,5 /+3 /123
- Click on a spot in one of the bandmap windows.
- Click on a spot in the Packet/Telnet window.
- Use one of the many keys below to change frequency, band or vfo/radio. Go look in the Key Assignments section to read what they all do!

Alt-Ctrl-Down Arrow	Ctrl-Shift-Page Down	Ctrl-Down Arrow	Alt-Ctrl-Q	Ctrl-Left	F10
Alt-Ctrl-Up Arrow	Ctrl-Shift-Page Up	Ctrl-Page Up	Page Up	Ctrl-Right	F9
Ctrl-Shift-Up Arrow	Ctrl-Shift-Down Arrow	Ctrl-Page Down	Up Arrow	Page Down	Ctrl-F9
Alt-Shift-Ctrl-Up Arrow	Alt-Shift-Ctrl-Down Arrow	Ctrl-Up Arrow	Alt-Shift-Q	Down Arrow	Alt-Q

- In the Log window, right click and select 'Jump to this frequency' to go to the logged qrg.
- Click on one of the callsigns in the last multipliers below the 'Available Mult's and Qs' window.
- Push one of the buttons in the 'Available Mult's and Qs' window to change band.
- Enter an offset in the Entry window 'callsign' field to go 'split'. See the Split Operating section.
- Need any more?

When no radio is attached when PgUp/PgDn is pressed nothing will happen. I.e. if the frequency is inaccurate, don't allow the operator to move out of band by inadvertently pressing PgUp/PgDn.

When a frequency is chosen outside an amateur band a warning dialog will be shown when trying to enter information. This could happen when no radio is connected, so a kind of "radio is not working" message, or when making a typo when entering the frequency.



7.4 Changing Band

Below some of the possibilities how to change band.

- Change the band on your radio, the program will follow if connected.
- **Ctrl-Page Up** – Go up one band. WARC bands are being skipped while logging for a contest.
- **Ctrl-Page Down** – Go down one band. WARC bands are being skipped when logging a contest.

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DEPARTMENT OF CHEMISTRY

RESEARCH REPORT

NO. 1000

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DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY

RESEARCH REPORT

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- Enter a frequency in the Entry window 'callsign' field on another band. Example: 14200,5 will jump to 14.200,5 MHz
- Push one of the band buttons in the 'Available Mult's and Qs' window to change band.
- Click on one of the callsigns in the last multipliers below the 'Available Mult's and Qs' window on another band.
- Click on a spot in the Packet/Telnet window on another band.

7.5 Changing Mode

- Change the mode on your radio, the program will follow if connected.
- Change the mode in the top part of the Bandmaps windows by clicking on the mode 'field'.
- Change the mode by typing CW, LSB, USB, RTTY, AM, FM, DIGI, PSK or SSTV in the 'Entry window' callsign field.

7.6 Changing Operator

- **Ctrl-O** – Change the callsign of the operator. If you are multi-user, you will be prompted for the operator at startup. The default is the callsign in the station information dialog.
- Enter **"OPON"** in the callsign field will also prompt for an operator callsign.

7.7 Split Operation

Split operation is when you transmit on another frequency than you receive. This is being used when stations have huge pileups like some dx-peditions or the bandplan does not allow people making contact on the same frequency. An example is 40 meter SSB between Europe and the USA. In Europe the highest SSB frequency is 7.1 MHz while US stations may not go that low in frequency.

Split operation can be recognized in the bandmaps. The big blue arrow will indicate your transmit frequency. A red marker will indicate your receive frequency. The frequency set will become the transmit frequency! Normally only one frequency is shown in the top portion of the bandmap, when working split the transmit frequency is added and shown just below the receive frequency.



Note: When you are working split and you are in 'Running' mode moving around will not change 'Running' mode into 'Search and Pounce' mode.

7.7.1 Split frequencies can be set manual

In the Split dialog with **Alt-F7** or direct into the Callsign textbox in the Entry Window entering it with **Ctrl-Enter**.

Decimal points and comma's are allowed in split frequencies in the callsign pane. Which one to use depends on the selected preferences in Windows.

The split frequency has to be entered or an offset to the current frequency for the active radio/vfo.

- Enter Split Frequency **or**
- Enter offset from Bandbottom (the full MHz) **or**
- Enter offset from current frequency as +5, +4, 3, 6, -2, -5 etc.
- Examples:
 - ◆ 7050,3 Ctrl-Enter
 - ◆ 220,3 Ctrl-Enter
 - ◆ +5,3 Ctrl-Enter

7.7.2 Split frequencies can be set automatic by packet spots

When a station is selected in the bandmap it can happen the program puts the radio into split automatically. This station has been entered on the packet cluster including a split offset frequency which will be used by the program!

7.7.3 Resetting to non-split mode

- Move to another frequency or band
- Click on the transmit frequency in the top part of the bandmap just below the receive frequency.
- Click on a spot in the Bandmap or Packet/Telnet window
- Click on a frequency in the Bandmap window
- Click on the frequency scale
- Click on a band button in the Available Mult's & Q's
- Press PgUp/PgDn

7.7.4 Split operation Key Assignments

Alt-F7 – Set split frequency or offset to current frequency for the active radio

Alt-S – When your rig is in the split mode, Alt-S will reset the RX frequency back to your transmit frequency, but the split mode is preserved. Application: Many operators will run a pileup with the rig in split mode, and use the 2nd VFO as an RIT. This is done since many RIT knobs are small or hard to get at, while some find it more natural to use the main VFO to tune in a caller rather than use the RIT. By running split, you can use the main knob to tune in the caller, while your TX frequency doesn't change. The Alt-S acts like an "RIT clear" when you are running split. Operates on left vfo only!

When using an Icom radio Alt-S will reset the RX frequency to the TX frequency but will preserve the split.

"Reset RX freq when running split" is an associated feature to the Alt-S function (found in the CONFIG menu). When invoked, the program will automatically do an Alt-S as you log each QSO. This gives you an automated "RIT clear" after every QSO when you are running split. The exact logging sequence when you hit the Enter key is: move RX freq to TX freq, log QSO, and then send the TU message. For additional background, see the Alt-S feature

Ctrl-S – When your rig is in the split mode, Ctrl-S will toggle the RX frequency between the split RX frequency and putting the RX frequency that same as the TX frequency all the while maintaining split mode. Application: This was designed primarily to help SSB ops run on 40 or 80m, where split operation is widely used. For example, "CQ CQ de N1MM listening on this frequency (7183) and 7068". Use the Ctrl-S key to toggle between 7183 and 7068 to check for both USA or DX callers.

7.8 Running Mode

Running mode means that you are giving CQ and stations are coming back to you. The frequency you are on is 'fixed' and you are not searching for stations. The program marks this frequency with the text CQ-frequency in the Bandmap window and the 'Running' indicator is marked on the 'Entry Window'. A part of this feature is that 'Running' mode has it's own set of Function keys. They will be automatically placed under the keys F1 to F8. There is also a set of function keys for Search and Pounce' mode, these function keys will swap to Shift-F1 until Shift-F8 so they are still available.

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ORIGINAL ARTICLES

THE PROBLEM OF THE PHYSICIAN IN THE PRESENT DAY
J. H. HARRIS, M.D., Chicago, Ill.
The physician in the present day is faced with a number of problems which were not faced by his predecessors. The most important of these are the increasing cost of medical education, the increasing cost of medical practice, and the increasing competition for the patient.

THE PHYSICIAN AND THE PUBLIC
J. H. HARRIS, M.D., Chicago, Ill.
The physician and the public are often at odds. The physician is often accused of being greedy, of being dishonest, and of being indifferent to the needs of the patient. The public, on the other hand, often accuses the physician of being inefficient, of being unkind, and of being uninterested in the patient.

THE PHYSICIAN AND THE FUTURE
J. H. HARRIS, M.D., Chicago, Ill.
The physician of the future will be faced with a number of problems which are not faced by the physician of the present. The most important of these are the increasing cost of medical education, the increasing cost of medical practice, and the increasing competition for the patient.

THE PHYSICIAN AND THE ETHICS OF MEDICINE
J. H. HARRIS, M.D., Chicago, Ill.
The physician and the ethics of medicine are often at odds. The physician is often accused of being greedy, of being dishonest, and of being indifferent to the needs of the patient. The ethics of medicine, on the other hand, often accuses the physician of being inefficient, of being unkind, and of being uninterested in the patient.

The "Running" switch is automatically marked when:

- the operator clicks on CQ–frequency in the Bandmap window
- the frequency of the radio is in tuning range of your CQ–frequency (on that band)
- pressing Shift–F1(= CQ–button) when in Search and Pounce mode (this can be changed on the Function Keys tab from the Configurer dialog.
- the string "CQ" is in the message or label from the function key or in the SSB file name.

When leaving the 'Running' frequency the indicator on the 'Entry Window' will be unmarked and the Function keys will be swapped for F1 to F8 in the 'Search and Pounce' keys.

When moving away from the 'Running' frequency the program will place you automatically in Search and Pounce mode. Going back to the 'Running' frequency will automatically select the 'Running' mode (the 'Running' indicator is selected again). Clicking on 'CQ–frequency' in the bandmap will place the program in Running mode again.

An exception is when working split i.e. transmit on one vfo and receive on the other. Moving around will not change Running mode into Search and Pounce mode.

There is only one CQ–Frequency per band. If swapping VFOs, it is possible to swap between running and search & pounce mode.

7.9 Search and Pounce mode (S&P mode)

'Search and Pounce' mode (S&P) is the contrary from 'Running' mode. The program is always in one or in the other. S&P mode means searching for stations on the bands and not giving CQ. The frequency used is *not* 'fixed'. The 'Running' indicator is *not* marked on the 'Entry Window'. The function keys under F1 until F8 are the keys programmed for Search and Pounce' mode, the 'Running' mode function keys are swapped to Shift–F1 until Shift–F8 so they are still available.

If "Running" is checked, the Run messages are shown, if not, the Search and Pounce messages are shown on the function keys.

When pressing Shift, the labels will change (when made different) and the text from the "Running" keys become the text from the "Search &Pounce" keys and vice versa. SHIFT REVERSES THE MEANING OF THE ABOVE RULE.

Note that when in Search and Pounce mode, to call CQ, press Shift–F1. That will place the program in Run mode and pressing F1 from that point on will call CQ.

When the label or the message in S&P mode has "CQ" in it, pressing it also changes you automatically to run mode

Example: You are S&P'ing through the spots. You land on one, and no one is there. What do you do

Send CQ. Rather than make you press Shift–F1, you can press your CQ key that you have programmed in s&p mode. The fact that the label or the message has "CQ" in it, changes you to run mode. If you sent CQ, don't you want to be in run mode?

When entering a call in the S&P mode and the call is a dupe, changing frequency (QSY) will automatically enter the dupe callsign into the band map and clear the Entry Window..



When a frequency is busy it can be marked with Mark (Alt–M). This could be used when the station on that frequency is not in the contest or may not be worked in the contest. Press Alt–M, and move on. That frequency is busy, so you won't want to stop

there again.

7.10 Enter Sends Messages mode (ESM mode)

Setting the option "Enter Sends Messages" in the Config dialog will enable a mode that allows you to make entire QSOs without using the function keys. ESM works for both running and S&P, but the messages are different for each mode. To set ESM, go to Config, and check Enter Sends Messages (ESM mode), or use the shortcut Ctrl-M.

Basic ESM Functionality

When running, pressing 'Enter' with the callsign textbox empty will send CQ. If someone answers you, type in his callsign. Hit 'Enter' again, and the program will send the exchange. After entering the other station's info, hitting 'Enter' again will send the end of QSO message (TU/QRZ) and automatically log the contact. See the chart below for a detailed list of what is sent at various states of the QSO.

Here's a typical scenario when N1MM is calling CQ in the CQ WW CW Contest:

Hit "Enter" – sends CQ
PA1M calls in – type "PA1M"
Hit "Enter" – sends "PA1M 5NN T5", note that PA1M's zone is filled in for you.
PA1M sends "599 14" (zone matches what program filled in)
Hit "Enter" – logs QSO & sends "TU de N1MM"

That's 3 keystrokes + typing PA1M's callsign. Slick!

On the other end, the S&P station can also use ESM. During the same QSO:

You hear N1MM calling CQ – type "N1MM"
Hit "Enter" – sends "PA1M", note that N1MM's zone is filled in for you
N1MM sends "PA1M 5NN T5" (zone matches what program filled in)
Hit "Enter" – sends "599 14"
N1MM sends "TU de N1MM", completing the QSO
Hit "Enter" to log the QSO

Once again, that's 3 keystrokes + typing N1MM's callsign. In some other contests, like CQ WPX, you will also have to type in the exchange, but in any contest ESM cuts the effort required to complete a QSO to a minimum.

Keeping track of which ESM "state" you are in can be confusing when things get hectic. To help you understand which state you are in, the function keys on the Entry Window will change color (aqua blue) to alert you to which message will be sent next. The goal here is that it should always be obvious what will happen next.

There will be times when you get out of synch, or where you need to send something different than what the next "Enter" will send. Don't panic. Just press the correct function key(s) (F2, F4, etc as needed). If you finished out the QSO with the F-keys, just hit Shift-Enter, which will log the QSO without sending anything, and you are ready for the next QSO (and ESM is reset to the beginning state).

Note: If a CQ is being sent, typing a character in the callsign field while in ESM will stop sending a CQ message being transmitted (this can be set in the Function Keys Tab from the Configurer

dialog).

When the copy is solid, and no copying mistakes are made, ESM will just send the basic messages in the previous example. Depending on what information is in the Call window and Exchange window and what state the QSO is in, different messages can be sent. The chart below outlines the possible combinations of information in the Entry window, and what will be sent in each situation.

		<i>Running mode</i>	<i>Search and Pounce mode</i>
Callsign field	Exchange field	Enter sends:	Enter sends:
Empty	Empty	CQ (F1)	My Call (F4)
New Call (1st time)	Empty or invalid	His Call + Exch (F5 + F2)	My Call (F4)
New Call (repeat)	Empty or invalid	Again? (F8)	My Call (F4)
New Call	Valid (before sending exchange)	His Call + Exch (F5 + F2)	Exchange (F2)
New Call	Valid (after sending exchange)	End QSO + Log (F3 + Log It)	Send Nothing + Log It
Duplicate Call	Empty or invalid	QSO B4 (F6)	- Nothing -
Duplicate Call	Valid (before sending exchange)	QSO B4 (F6)	Exchange (F2)
Duplicate Call	Valid (after sending exchange)	End QSO + Log (F3 + Log It)	Send Nothing + Log It
Dupe (1st time), Work Dupes unchecked	Empty or invalid	His Call + Exch (F5 + F2)	QSO B4 (F6)
Dupe (repeat), Work Dupes unchecked	Empty or invalid	Again? (F8)	QSO B4 (F6)
Dupe, Work Dupes checked	Valid (before sending exchange)	His Call + Exch (F5 + F2)	Exchange (F2)
Dupe, Work Dupes checked	Valid (after sending exchange)	End QSO + Log (F3 + Log It)	Send Nothing + Log It



NB: When in ESM and in S&P, If the cursor is *not in the call textbox* and the *Exchange is not finished*, the program will send "Again? (F8)"

N1MM allows the user to select which messages are associated with each function key for both running and S&P. E.G. the default CQ Key = F1. If desired, the CQ Key can be moved to any key from F1 to F8. The default key settings are similar to other contest programs, and these messages can be set in the configuration dialog (Config > Configure Ports, Telnet Address, Other > Function Keys tab). There are seven list boxes near the bottom of the dialog to associate function keys with specific tasks during a QSO, as well as check boxes above which can modify how those tasks are carried out.

The actual messages sent by each of those function keys (e.g. CQ Key, Exchange Key, My Call Key, etc.) are set in the configuration dialog (Config > Change Packet/CW/SSB Digital Message Buttons). There are 16 messages that can be set: the first 8 messages are for running, and the second 8 for S&P. Each mode (CW, SSB, Digital) can have a separate set of messages, which are saved by the program. If the program is sending the wrong message, check here first! In the middle of the contest, you can also change the messages for the current mode by right-clicking on one of the message buttons in the Entry window.

When you are Running with ESM enabled and while entering you place a ? in the callsign field the cursor will not move to the exchange field but stay in the callsign field highlighting the ?.

NB. In cw you the cursor is moved when the call is fully sent. This allows you to press enter & start sending before you have fully typed the callsign.

7.10.1 A known 'problem' (it's actually a feature)

The problem:

In ESM mode, the cursor jumps to the report field before you can finish typing the call...

To enjoy all the ESM features and still stay synchronized with the pile-up, go to Config/Function Keys and deselect 'Fill in his exchange'.



Tip: ESM mode allows you to type in a few letters, and then hit Enter to start sending your response. The cursor stays in the Callsign field until all letters are sent. This means you can type in a few letters, hit Enter, and then finish typing in the call. Once the entire call has been sent, the cursor moves to the next field. (the exchange is of course appended to the end of his call). You can do things the old way (type the full call before hitting Enter), as it essentially has no impact. The benefit of this is to allow you to shorten the time it takes to start responding to a caller in a pileup.

7.11 Call Stacking

This is a feature to 'remember' callsigns with their frequencies and then quickly work them. When retrieving the 'stacked' callsign the radio is tuned to the station.

- Shift-Enter will enter a call from the callsign field on the 'stack'.
- The stack is shown on the callsign frame when giving Shift-Enter.
- Callsigns on the stack are shown with 3 dots added like W1XXX..
- Go through the stacked calls with Shift-Enter (shown on the callsign frame) so Shift-Enter (stack) will pop the next contact after logging this one.
- When stacking, the next time when the Entry window is clear with Alt-W or logging the qso, and pressing Enter, the stacked call will be entered, and the radio tuned to the station.
- To delete a callsign from the 'stack' press 'Space' and log the call which appeared in the callsign field or Wipe (Alt-W) the callsign field.
- The same call can be 'Stacked' only once on the same band.
- A callsign can also be stacked from one radio to another when 'Multi-User'. So a second operator can stack a call on your PC 1, and he could find stations and stack them for you to work. They would stack just like you stacked them yourself. See the Multi-User section for Remote call stacking.

7.12 QSYing wipes the call & spots QSO in bandmap

If you turn on this feature (in the Config menu), it will spot stations in the bandmap which you haven't worked yet or don't want to work all. These stations are not spotted on packet/telnet but only locally. Any call greater or equal to 3 characters that you don't work but have entered in the callsign field will be automatically spotted in the bandmaps when you turn the vfo to another frequency. This way you can place stations on the bandmap which you can't work direct (big pileup?) so want to store them somewhere. Also usefull when you want to add stations to the bandmap who you don't want to (or may not) work but like to have the callsign in the bandmap so when searching for stations you know who is on that frequency so you can turn on.

All bandmap features work on these 'spotted' stations so they are easy accessable if needed. Self spotted stations are easy recognized because they are shown in bold.

This feature is also very usefull in a M/S or M/M environment. Often there is a MULT station that is tuning the bands, but may not want to post the spot until the QSO has been worked by their own RUNNING station. (I do not wish to get into an ethics discussion, but this is done quite often) This feature allows the MULT station to build a band map full of calls for the RUNNING station to work when it gets a chance.

That means you can do the following:

- Tune to 21200
- Enter VU2PTT
- Tune off
- VU2PTT is "spotted" at 21200, and the Entry Window is cleared
- Tune to 21208
- Enter G4UJS
- Tune off
- G4UJS is "spotted" at 21208, and the Entry Window is cleared
- Repeat as long as desired.
- Go back and work all of them using Ctl-up and Ctl-dn to navigate



Note: There is also a "Spot all S&P qsos" option. It has a number of rules, but will spot everything you WORK on packet, if it has not already been spotted.

7.13 Connecting a telnet cluster

- Select the tab: Telnet in the packet window.
- Select a telnet cluster from the list in the upper right corner
 - ◆ This list can be chnaged in configurer (Config | Configure Ports, Telnet Address, Other | Select tab: Hardware, Select: Edit next to Telnet Cluster)
- Click the button marked with your callsign, on the far lower right, or type your callsign in the left field at the top of the telnet tab. Do not click the CONN button, that's solely for RF packet

7.14 Playing Wav files

The program can play wav files in SSB for giving CQ, sending default reports etc. For this to work wav files have to be made with the text to send. These wav file shave to be polaced in the wav\ direcotry undeer the program directory. To call a wav file edit the SSB functionkeys as in the examples below. It is also possible to send a callsign from it's letters and numbers.

- Use the SSB function keys to send wav files
- **Examples:**

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and change. From the first settlers to the present day, the nation has evolved through various stages of development. The early years were marked by exploration and settlement, followed by a period of rapid expansion and industrialization. The American Revolution and the Civil War were pivotal moments in the nation's history, shaping its identity and values. The 20th century brought significant social and political changes, including the rise of the New Deal and the Civil Rights Movement. Today, the United States continues to face new challenges and opportunities, reflecting the ongoing nature of its history.

The American Revolution was a turning point in the nation's history. It was a struggle for independence from British rule, fought between 1775 and 1783. The revolution was led by men like George Washington and Thomas Jefferson, who fought for the principles of liberty and democracy. The result was the creation of a new nation, the United States of America. The Civil War, fought between 1861 and 1865, was another pivotal moment. It was a conflict over the issue of slavery, which ultimately led to the abolition of the institution. The war was a bloodshed, but it also paved the way for a more unified and democratic nation.

The 20th century was a time of great change and progress. The New Deal, implemented by President Franklin D. Roosevelt, brought about significant social and economic reforms. The Civil Rights Movement, led by figures like Martin Luther King Jr., fought for equality and justice for all Americans. The space race and the Vietnam War were also major events of the era. Today, the United States is a global superpower, facing new challenges in the 21st century. The nation's history is a testament to its resilience and ability to overcome adversity. As we look to the future, we can draw inspiration from the values and principles that have shaped the United States.

- ◆ Play cq: **wav\cq.wav**
- ◆ Play default exchange: **wav\5905.wav**
- ◆ Play the callsign entered in the callsign entry field will be send by the soundcard: **!**
 - ◇ This example uses the macro: **!** (Sent his call)
- ◆ Play call from station in callsign field: **letters!**
- ◆ Don't play call from station in callsign field: **Use a single space.**
 - ◇ This replaces the advice to put empty.wav in the callsign button.
- Some examples using the macro {OPERATOR}, let each operator have his own wav files. You can specify wav files like: wav\{OPERATOR}\cq.wav As you change operators in a multi op contest, the wav files will change as well. You will have to name them consistently. Note that wav directory syntax indicates a subdirectory under install directory. You can also fully qualify, like: "C:\wavfiles\cq.wav". {OPERATOR} is a string substitution only implemented for ssb buttons.
 - ◆ Play cq with operators voice: **wav\{OPERATOR}\cq.wav**
 - ◆ Play call with operators voice: **{OPERATOR}\letters!**
 - ◆ Play default exchange with operators voice: **wav\{OPERATOR}\5905.wav**

Some more examples can be found in the Macro chapter under {OPERATOR} macro examples and in the Sweepstakes contest setup.

7.15 Wav file control

When play SSB wav files, the play volume can be adjusted by N1MM logger or by the Windows play control sliders.

- Control the wav file volume with N1MM logger.
 - ◆ When N1MM logger starts the Windows play control sliders will change to the settings in the program. This is happening when the volume changes at startup, adjusting the sliders of the windows play control will be overruled by the program at startup.
- Control the wav file volume with the Windows play control sliders
 - ◆ Disable the control by N1MM logger by putting a -1 in the 'Volume level' and 'Wav volume level'. Now the sliders on the Windows play control will not be changed by the program.

The settings can be found under: Config | Configure Ports, Telnet Address, Others | Select the 'Other' tab

7.16 How to save the log

Well, there isn't a 'save' function either. Again: not necessary. Every change you make to a database, is stored 'on the fly', hence the absence of a 'save log' function. The ham.mdb file (default name) on your harddisk is the database where every contest is stored, along with lots of other information used by the program. Indeed, you don't need to make a new file for each contest. Each new contest is stored in one and the same file. Just go File > Chose contest > Start a new log for a contest > pick one out of the list, and you're all set to go. After a couple of years, there are dozens of contests in the database, for a total of a couple of thousand QSOs.

Now, you can make new databases, as many as you want. You can have separate databases for separate calls, seperate contests etc. Most users however, only need 1 database. You can copy it to backup etc. Just be sure what you're doing when messing with files...

7.17 Backup and Restore

Information used by the program is partly stored in the database, partly in the registry and in some additional subdirectories. Examples are the WAV files (for the function keys) but also in the Letters directory. So when making a backup not only backup the MDB files but also some txt files / or sub-directories.

Backup proposal:

- **All database (*.mdb) files**
 - ◆ In the database files are all contests with qso's but also the functionkeys content, Station information etc. Compress the database to get them small.
- **Export Window settings** (File | Export | Export Windows Settings to file)
 - ◆ Windows Settings are stored in the registry so have to be exported before you can backup these to disk. Importing this file again will get the settings back in the program.
- **Import Program Settings** (File | Export | Export Program Settings to file)
 - ◆ These are the radio settings, port settings, RTTY settings etc. i.e. everything in Configurer but also last contest used are also stored in the registry so have to be exported.
- **Wav files**
 - ◆ Which can be used by the program (SSB mode). They are in the WAV directory (for the function keys) and in the Letters directory (sending callsigns etc).
- More?

Storing all these settings (exported text files, wav files etc) next to all databases (mdb files) on a disk in case of a computer crash would not be a bad idea :-)

Restoring on the same computer

Restoring the data is more or less the other way around.

- **Restore All database (*.mdb) files**
 - ◆ Restore the database file(s) back in the program directory (which is the default place but not necessary).
- **Import Window settings** (File | Export | Import Windows Settings to file)
 - ◆ Import the windows settings back into the registry.
- **Import Program Settings** (File | Export | Export Program Settings to file)
 - ◆ Import the program settings back into the registry..
- **Wav files**
 - ◆ Create the directories WAV and Letters directory
 - ◆ Copy the wav files in them
- More?



Note: This is not the way to place the program on another computer, the first time you have to install !.

Installation on a different computer

The difference with another PC is that you **first have to install N1MM logger on the new PC**, this to get all dll , ocx files etc. copied and registered. After that you may overwrite/add all *.mdb files, settings etc in the N1MM logger program directory by copying and importing settings. See the restore procedure above.

You have to watch out if the settings like comm ports, directory structure, screen resolution etc. are different on the second PC. This could/will give trouble.

Copy, zip, cd/rw etc.

Compressing the database files with a program like WinZip really helps, these databases (but also Word files, Excel files etc.) compress a lot, mostly down to 10–25 percent of it's original size. This means that a 4 MB database fits easily on a diskette.

I often make a backup of the whole N1MM logger subdirectory including all subdirectories to a CD recordable. Copying it to another harddisk (in the same computer but better on another computer when you have a network) is also a good idea. Remember to export the Windows and Program settings before and store them in the N1MM logger directory so they are also on the backup.

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8 Two Monitor Support

Original by Joe Natale, K1JN

8.1 Requirements

- Requires Win 98 or better
- Additional videocard
- Additional monitor

8.2 General

Using two monitors is easy and once you have used two you won't want to go back to using one.

To use two monitors is easy. The operating system takes care of everything. Just think of the two monitors as one – sitting side by side. You can move windows(apps) around. When you move to the right on the left monitor and reach the edge of the monitor, just continue and you will be on the left edge of the right monitor. So just open up the program you wish to use then move it on to the second monitor just drag it across to where you want it on the second monitor.

You only need one mouse and keyboard the mouse will move smoothly between the two screens just click the mouse on the monitor that is displaying the program that you wish to use and then the keyboard is available to that program. All of the windows setting and commands are available to both monitors and can be different for each.

Just fit a cheap PCI or APG graphics card into your PC and the second monitor and check the windows setting in the control panel under display to extend the desktop across the two monitors and the go and have fun.

Also some laptops support dual monitors. I.e. the laptop screen and one attached to it.

The best way to set up two monitors is to have the **primary** monitor on the Left because *many* programs do not handle negative position numbers. They all should but they don't. If you do it with Primary on left all programs should work and remember positions.

8.3 Two Monitor Setup

8.3.1 Install hardware

- Shut down Windows
- Open the case
- Install a second video card
- Attach a monitor.
 - ♦ Any card/monitor will do, they don't have to be same as the one already installed, I used a Windows 95 era ATI Rage video card and an old Gateway 2000 CrystalScan monitor.
- Close the case



8.3.2 Software

- Start the PCReboot
- Windows should find the new card and monitor and install the software.
 - ◆ You will get a message on the 2nd monitor that says if you can read this, you can extend your desktop onto this monitor.
- You do that by right clicking on the desktop and click on properties. Click on the settings tab. There will be icons for two monitors. Click on the one numbered 2 and check the box that says extend my Windows desktop onto this monitor.
- Drag the monitor icons to set which is left and which is right.
 - ◆ The second monitor is actually an extension of your desktop, it will have the same wallpaper and color scheme. If you move the mouse cursor off the right edge of the left monitor, it shows up on the right monitor. The screensaver runs on the main monitor, but not the 2nd one here.

As far as the windows sticking, it varies by program. Luckily, in the case of N1MM Logger, they stick!

8.3.3 Example Setup

The picture below is a setup example from K1JN during the CQ WPX CW contest. The left monitor is a 17" set to 1024 x 768 resolution, the right monitor is a 15" set to 800 x 600 resolution.

Left screen windows

Both Bandmaps
Log window
Entry window
Check partial window



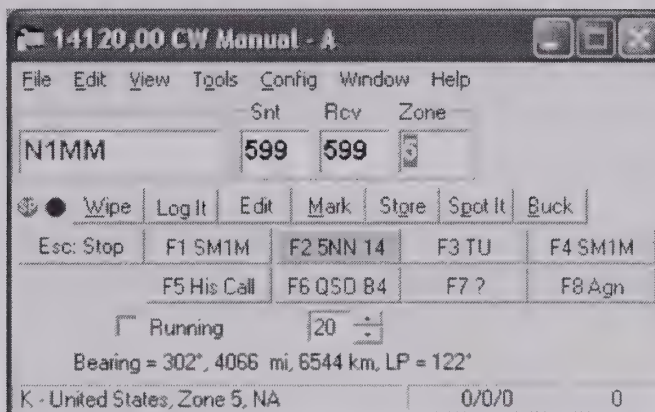
Right screen windows

Packet/telnet window
Info window
Available mults
Qs window
Score Summary window

9 Entry Window

Key Assignments

Your entry window will be similar to this one.



There are two ways to move from field to field.

- **Tab** or **Shift Tab** will move through the fields normally.
 - The **spacebar** will jump from field to field filling in defaults. Defaults like the callsign from the frame, the reports, and information from previous contacts with this station are shown in the log window.
- The spacebar is the preferred tab character.

- Button Assignments
- Other Info (Running Check Box)
- Status Bar Information
- Callsign Colors
- Other Features
- Function Keys
- Other Keys (Insert & Ctrl-Enter)
- File Menu
- Edit Menu
- View Menu
- Tools Menu
- Config Menu
- Window Menu
- Help Menu

9.1 Button Assignments

- **Wipe Alt-W** – Wipe Out Entry Fields. Clear information about the current contact (equal to Ctrl-W).
- **Log It Enter** – Write this contact to the database. Disabled when in reedit mode.
- **Edit** – Edit additional contact information.
- **Mark Alt-M** – Mark this frequency in the Bandmap as being in use. I.e. you don't want to take time to enter the call of the station using this frequency.
- **Store Alt-O** – Stores the contact in the Bandmap where it will be shown in bold because it is self spotted.. The call will also be placed on the callframe.

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- **Spot it Alt-P** – Spot the contact on the current Packet/Telnet connection.
- **Buck** – Display information on the current call using the Buckmaster callsign database.
Note: hamcal32.dll must be in the start-up and the callsign database must also be set up properly in the Files Tab from the Configurer. If hamcall32.dll is not found it will use qrz.com to find the call.
- **F1 through F8** – Send the associated CW text or .wav file. Right click on the buttons to change labels and actions (or go into the menu). See below for more info about the Running indicator.
- **Shift-F1 through Shift-F8** – Send the associated CW text or .wav file. Right click on the buttons to change labels and actions (or go into the menu). See below for more info about the Running indicator.
- **Esc** – Stop sending the associated CW or .wav file. Also stops playback of recorded contacts.
- **Alt-U** – Toggles the runbox value (Running mode versus S&P mode)
- **CW speed** – The CW speed can be set using the textbox with speed & up/down buttons (only visible when CW mode is selected). In the example screen above the speed is 28 wpm.

9.2 Other Info

- **Running** – Mark this contact as being part of a run.
"Running" is *automatically marked*:
 - ♦ when you click on **CQ-frequency** in the Bandmap window
 - ♦ when you are in tuning range of your **CQ-frequency** (on that band)
 - ♦ when you pressing Shift-F1(= CQ-button) when in Search and Pounce mode (this can be changed on the Function Keys tab from the Configurer dialog.
 - ♦ when clicking on the green dot when it shows SP (Search & Pounce)

9.3 Status Bar Information

- **Left pane** – Information
 - ♦ *After entering a callsign* – Country, Zone, Continent
 - ♦ *Otherwise* – Messages (like error messages, results from commands etc.)
- **Middle pane** – Qso's /multipliers (/zone) depending on the selected contest
- **Right pane** – Current score

9.4 Callsign Colors

Callsign colors entered in the Callsign field

Red Multiplier

Blue New contact

Dupe contact or an **unworkable station in a non-workable country**

Gray This means that you don't need this station because he is a dupe or you are not even 'allowed' to work him in this contest according the contest rules.

Callsign colors appearing on the Entry window callsign frame

Red Multiplier

Dupe contact or an **unworkable station in a non-workable country**

Gray This means that. You don't need this station because he is a dupe or you are not even 'allowed' to work him in this contest according the contest rules.

9.5 The red and green dots (LEDs)

On the Entry Window a green and/or a red dot (LED) might be shown. The LEDs are visual aids that help you easily identify what is happening on each radio. This is part of N1MM's continuing philosophy of letting the operator easily know what's happening at any give time.

The green LED indicates that VFO has receive+keyboard focus and the red LED indicates that VFO has transmit (TX) focus. In addition, the red TX LED changes between dark red (TX focus) and bright red (VFO/radio is transmitting). Inside the LED are letters which identify different states (see below).

9.5.1 Dot/LED colors used:

Green dot/LED – This VFO/Radio has receive (RX) and keyboard focus. RX and keyboard focus are always together.

- ◆ Inside the green dot the Ru/SP (Run/S&P) designators are shown. Ru means the station is in running mode, and SP means the station is in S&P mode.
 - ◇ when clicking on the green dot it toggles between running mode (Ru) and Search & Pounce mode (SP).
- ◆ RX/keyboard focus can be toggled between the VFO's/radios by
 - ◇ using a mouse to click on a free space in one of the two Entry windows
 - ◇ pressing the \ key (backslash)
- ◆ To move both Transmit and Receive focus
 - ◇ pressing Ctrl-Left-Arrow / Ctrl-Right-Arrow will move both foci to the left and right radios

Red dot/LED – This VFO/Radio has transmit (TX) focus

- ◆ Transmit (TX) focus can be changed between the VFO's/radios by pressing the F10 key
- ◆ To move both Transmit and Receive focus pressing Ctrl-Left-Arrow / Ctrl-Right-Arrow will move both foci to the left and right radios
- ◆ During transmitting the TX focus can not be changed
- ◆ When the VFO had TX focus, the LED is dark red. When that VFO is transmitting, the LED changes to bright red
- ◆ Inside the red dot the R (Repeat) designator is shown when Repeat mode (for CQing) is active

9.6 The Entry Windows

The program has two Entry windows. **When using both bandmaps/both VFO's, both Entry windows are needed to make qso's on both VFO's!**

The **standard Entry window**, which is always open, is being used to transmit on **VFO-A** (SO2V) or the **left radio** (SO2R).

The **second Entry window** is being used to transmit on **VFO-B** (SO2V) or the **right radio** (SO2R). The second Entry window can be opened by entering a backslash \ in the first Entry window.

If two Entry windows take up too much space, position the second Entry window over the first Entry window. "\ " will toggle you from one to the other (typing focus) or use ctl-right/left to move transmit& typing focus. The 2nd window opens as a default "SO2R" Entry window. In the smaller VFO B Entry

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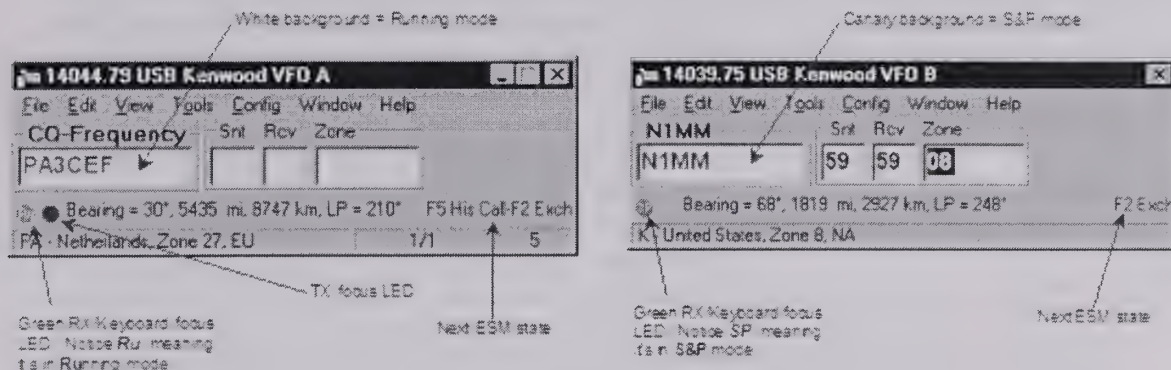
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Window, simply click on View > Hide Buttons. That will make the 2nd entry window the same size as the first Entry window. The pictures below show the Entry windows with View > Hide Buttons selected.

Most SO2R operators get the most efficiency while CQing on 1 radio, and S&P'ing on the other. The below Entry Window examples reflect a typical setup: The left VFO (A) is now assigned to running, and the right VFO (B) is assigned to S&P.



All of the features that are available to the single radio operator also work in SO2R/SO2V. For example, when tuning the band with the S&P VFO, spots that are in the bandmap are automatically inserted into each call frame (above callsign entry window) when you tune across the frequency of the spot. Hitting the space bar will pull the callsign from the call frame into the QSO field. Then if a station calls you on the run radio, toggling back and forth between Entry Windows with the \ key or Ctrl Left/Right arrows will keep all the information each Entry Window until the respective stations are logged, wiped clean via Alt-W or Ctrl-W, or you QSY and the callsign is entered into the bandmap (if "QSYing wipes the call & spots QSO in bandmap" is selected). Most people who are comfortable with Logger tend to use the reduced size Entry Windows in the examples above. All of the vital information an operator needs is displayed in the smaller window.

The second Entry window will be opened when a call is clicked in the second bandmap and it is not open.

More SO2R info can be found in the [SO2R chapter](#).



In SO2V (one radio – two vfo's = 'normal' operation) qso's made on VFO-A have to be entered in the standard (first) Entry window. Making a qso on VFO-B (so transmitting on VFO-B) has to be done by using the second (VFO) Entry window. So when using both bandmaps, both Entry windows are needed to make qso's on both VFO's. When a call from VFO-B is entered in the first Entry window you will transmit on the wrong VFO. Select the correct Entry window!

9.7 Other Features

- When a callsign is entered info about the country (bearing, distance etc.) is shown just above the status bar.
 - When a callsign is entered and the station is a **dupe** moving to another frequency will automatically clear the callsign field (and place the station on the bandmap)
 - If in the callsign typed there is a **question mark** (you didn't get the complete call the first time), the cursor highlights the ?, so that when you type, it will replace it.
- When in Enter Sends Message (ESM) mode with a ? in the callsign field Enter doesn't move

to the Exchange field but highlights the **question mark**.

A callsign with a question mark in it can not be logged.

- Clicking on the Exchange pane will have the same effect as pressing Space when the cursor is in the callsign field.
- When both bandmaps are closed the frequency and mode is shown on the title bar before the contest name.
- When tuning the band and a station on the bandmap is within tuning range, his call will be placed on the Entry window **callsign frame**. When the callsign field is empty, giving space will copy the callsign from the Entry window callsign frame to the callsign field. Also clicking on the callsign in the callsign frame will place call into callsign field, replacing anything that was previously there. The tuning range can be set in the configurer.
- **Set Frequency in callsign field** – The frequency from the first VFO (A) can be set by entering a frequency or offset into the callsign field. Decimal points and comma's are allowed in (split) frequencies in the callsign pane. Placing a / in front of the frequency or offset will set the second VFO (B). Also Split frequencies can be set here, see the chapter Basic Functions for frequency change and split frequency examples.
- **Set Mode in callsign field** – The mode can be set by typing CW, LSB, USB, RTTY, AM, FM, DIGI, PSK or SSTV into the callsign field.
- **Ctrl-P** – Spot the station entered in the callsign field as a spot to the active cluster connection, either packet or telnet. You will be prompted for a comment. If no station is entered in the callsign field, the last station worked this session will be spotted.
- **Ctrl-O** – Change the callsign of the operator. If you are multi-user, you will be prompted for the operator at startup. The default is the callsign in the station information dialog. Entering "OPON" in the callsign field will also prompt for an operator callsign.
- **Auto-call completion** – As you are typing a callsign in the callsign field, if a unique match to your log or to the check window call occurs, the remaining characters in the call are added to what you have already typed. They will be highlighted, so that if you continue to type, you will replace the characters added.
- **Auto-CQ** – Alt-R toggles the CQ button to give CQ once or repeat. The on/off on the status bar determines if the next CQ will go into repeat mode. The only way to stop the repeat (mid stream), and to get completely out of it, is to hit Escape.
 - ♦ **Alt-R** turns repeat mode on or off.
 - ♦ **Ctrl-R** sets the period of repeat in seconds or milliseconds.
 - ♦ If repeat mode is on, cq will always repeat.
 - ♦ If repeat mode is off, cq will not repeat.
- **Ctrl-Shift-F1** is a hotkey to record the CQ message.
- **Enter sends messages** – the so called 'Enter mode' or 'ESM' mode. An entire normal contact (CQ & S&P) can be handled with Enter key. More information is given in the chapter Basic Functions.
- **Automatically Spot all S&P QSO's** – Spot the contact automatically when you log it.
- **"Quick Edit" (Ctrl-Q/Ctrl-A)** – Quickly edit the qso's worked before in the log. Ctrl-Q moves back one qso, Ctrl-A moves forward one qso. If the textboxes in the Entry window are colored blue, you are in Quick Edit mode. To exit, press enter to save changes or Escape to abandon changes. Quick Edit starts editing with the highlighted contact and you can move forward or back from there. Enter logs the changes made and Escape discards the changes bringing you back in normal logging mode.
- The program will display a warning if it suspect's that the computer time is wrong (by checking local time & time zone).
- **Call Stacking** – This is a feature to 'remember' callsigns with their frequencies and then quickly work them. When retrieving the 'stacked' callsign the radio is tuned to the station. A call stacking example is given in Basic Functions chapter.
- **Using both vfo's when 'Running'** – When using the main VFO to transmit and the other to receive (split mode) after each logged qso the RX frequency will be made equal to the TX

(main VFO) frequency. It's there to let you use the main frequency control as an RIT. It resets it after every RUNNING qso.

- **Automatic antenna selection** can be used. Antennas have to be set on the Antenna tab from the Configurer dialog and can be controlled using an external box on the parallel port. When you press **Ctrl-F11**, you will toggle through all the antennas FOR THAT BAND. If there is only one, then no toggling will occur. When you change bands, the antenna switch will be changed to the antenna with the lowest code for that band. The selected antenna will show in the status pane.
- **Alt-'** (Alt-singlequote) toggle between the wide and narrow filter for the selected mode (SSB, CW and Digi modes). This hot key will work whether you have changed your filter codes or not. Filter codes can be set in the the bandmap right click menu.
- **Pause** – swap radios and match keyboard to radio.
- **Exchange field validation:**

CQ Zone	only allow numbers, tab, space, backspace
Section	only allow letters/numbers
Exchange	only allow letters/numbers
Grid	only allow letters/numbers
Power	only allow letters/numbers

- **K1TTT's call checking function** has been implemented. When a callsign is entered it is checked against a pattern file to see if the callsign entered is a possible callsign. A warning will be given in the Check window when this is not true. The chekcing in done using a set of rules in the file CALLSIGN.PAT. Note that the call checking function only works for HF (no WARC) and CW/SSB. More information in the chapter [Call Checking](#).
- **Shift-Ctrl-F1** – Record CQ SSB message using the wav file from the defined CQ button in the configurer (mostly F1). Pressing Shift-Ctrl-F1 again stops the recording

9.8 Function Keys

9.8.1 General

The program has 16 possible programmed messages assigned to the function keys. There are two sets of messages, *Run messages* and *Search and Pounce* messages. The first eight messages you enter are presumed to be Run messages, the second eight, Search and Pounce.

The function keys can be remapped , this can be done in 'Config menu selections', 'Configure Ports, Telnet Address, Others', Tab: Function Keys.

The function keys can be stacked. This means you can press several function keys behind each other which will all be send in the selected order. The text from each key will be fully sent (CW & SSB).

When hovering with the mouse over a function key button a text is shown about the messages to the CW/SSB/Digi button dialogs

9.8.2 Running and S&P mode

If "Running" is checked, you will see the Run messages, if not, you'll see the Search and Pounce messages on the function keys. SHIFT REVERSES THE MEANING OF THE ABOVE RULE.

(1)

(2)

(3)

When you press Shift, the labels will change (if you made them different) and the text from the "Running" keys become the text from the "Search & Pounce" keys and vice versa.

Running is determined by whether you are on a CQ-Frequency (the 'Running' indicator is marked). If you are, you are running. You have one CQ-Frequency per band. If you swap VFOs, it is possible to swap between running and search & pounce. Running is based on the TX frequency.

When you move away from the frequency on which you were Running the program will place you automatically in Search and Pounce mode. Going back to your Running frequency will put you back in Running mode (the 'Running' indicator is marked again), clicking on 'CQ-frequency' in the bandmap will put you also in Running mode again.

An exception is when you are working split i.e. transmit on one vfo and receive on the other. Moving around will not change Running mode into Search and Pounce mode.

Note that if you are in Search and Pounce mode, to call CQ, you will need to press Shift-F1. That will automatically place you in Run mode, the Run indicator will be set, and you can press F1 from that point on.

<i>Default Function keys</i>	
F1	CQ key
F2	Exchange key
F3	End of QSO Key
F4	My Call Key
F5	His Call Key
F6	QSO B4 Key
F7	
F8	Again Key

The above mentioned function key assignments are the defaults. The function keys can be remapped in the 'Configurer' dialog.

Just put these 16 messages in the CW message area in order. They will map to F1-F8 and Shift F1-F8. You may omit the last five, and they will repeat F4-F8.

Keys not programmed in S&P mode take the value of that key from Running mode (if programmed). This means that when the F5 key in S&P mode isn't programmed, the F5 key from Running mode will be shown (and used) by that function key in S&P mode. If you want you can come close to CT compatibility.

Therefore the text sent by and shown on the function keys depend on the Running mode indicator!

More info about Running and S&P mode can be found in the Basic Functions chapter.



9.9 Other Keys

<i>Key</i>	<i>Send function key(s)</i>	<i>Action(s)</i>
Insert (middle)	His Call Key & Exchange Key	Send His call followed by the Exchange.
; (same as Insert key)	His Call Key & Exchange Key	Send His call followed by the Exchange.
Ctrl-Enter		Log the contact.
,	End of QSO Key & Log contact	Will send the <i>End of QSO</i> message and logs the contact.

Background: The ; and ' keys were added to make touch typing much easier for those who use the Insert and + keys for working and logging QSOs. It is impossible to touch type and easily hit these very often used keys. Also, if you have ever operated at a M/M, often each keyboard has these keys in different places. This helps standardize often used keystrokes.

9.10 File Menu Selections



Note: a database is a single Access 2000 database file. It has an extension of .mdb. In each database are held zero or more general or contest logs. Our long term direction is to allow operations such as qsl printing and viewing of all contacts in a database. For the time being, only one contest or general log within a database may be viewed or edited at a time.

- **Choose Contest** – Choose an existing contest or create a new contest (within the current database). More info in the chapter '[Select Log Type Dialog](#)'.
- **New Database** – Create a new log database. Change the proposed name (new.mdb) into a meaningful name for the use or contents of this new database. From now on this database will be opened by default at startup of the program. Use Open Database to select another Database which will become the default database to open. Many contests can be stored within one database. Always use a separate database for testing new versions of the program and make regular backups of the N1MM logger directory with all it's contents but with at least the database files (*.mdb) with 'real' contest qso's.
- **Open Database** – Open an existing log database. A selection can be made from databases already created. Many contests can be stored within one database.
Warning: All setup information like station info, radio setup, telnet clusters, function key information etc. is stored in the current database. When creating a new database this information is copied to the new one. Changes are always stored in the current open database. So when opening an old database all the stored information has to be checked if still valid and changed where needed. This can be done partly automatic by using the export and import functions for settings and function keys.
- **Copy (and Compact) Database** – Copy the database to a new database file, and compress the data at the same time. Change the proposed name (new.mdb) into a meaningful name. This function can be used to reduce the size of the database after importing a new CTY.DAT file or deleting contests. The original database is not changed, nor does the program start using the new database, unless Open Database is subsequently used to open the new database.

Note: Copying a database also compresses it. If you have deleted contests from your

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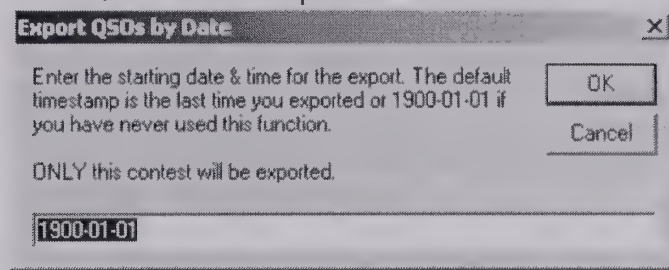
database, you may want to copy it to reduce the space it takes up. Deleted contests and contacts are definitely gone!

- **Copy This Contest to Another Database** – Copy the setup information and QSO's from the current contest to another database. The database should exist, if not create it first with 'New database'.
- **Import**
 - ◆ **Import ADIF from file...** – Load the data from an ADIF file into the current database. ADIF is being used to import into and export from many contest and logging programs. It is not possible to import a contest if the contest ID doesn't match the current contest. So the exported and imported contest have to be the same. If not look in the FAQ section what to do.
 - ◆ **Import Call History** – Some contests use exchanges which are very often the same the next you work a station. This table can be used by some of the contests to show information in one of the exchange fields or fill a macro when a callsign is entered. This information can be Name (RTTY friends file), Grid square, age, etc. For more information see the Before the Contest chapter and for vhf the VHF and up contesting chapter (VHFREG1 is a VHF contest which uses this table to fill the grid square). When importing a new file with information the contents of the Callhist table will be deleted first. So export first if you want to keep the content!
 - ◆ **Import Packet/Telnet Buttons from file...** – Import the contents of the Packet/Telnet buttons file (*.mc). This way for every kind of packet cluster or different locations a separate set of Packet/Telnet Buttons could be created.
 - ◆ **Import Program Settings from file...** – Import the program settings which have been exported with 'Export Program Settings to file'. In this file default called 'N1MMsettings.txt' are all settings except the window settings from the program. *The program will exit after importing!*
 - ◆ **Import Windows Settings from file...** – Import the window settings which have been exported with 'Export Windows Settings to file'. In this file default called 'N1MMwindows.txt' are all window settings except the program settings from the program. The windows are automatically reopened after importing. *The program will immediately update all window settings after importing the settings!*
 - ◆ **Import Function Keys to file...** – Import the contents of a saved function keys file (*.mc). This file can be edited with a text editor like Notepad before importing.
 - ◇ **SSB Function Keys** – import the SSB function keys.
 - ◇ **CW Function Keys** – import the CW function keys.
 - ◇ **Digital Function Keys** – import the Digital Interface function keys.
- **Export**
 -  When the "Save File" window prompts for a filename the default is [callsigned.txt]. If your contest call sign was N1MM/P, put something like "N1MM_P.txt" The / and many other characters are a no go in the Windows OS.
 - ◆ **ADIF**
 - ◇ **Export ADIF to file...** – Create an ADIF file. This file can be used to import into a logging program or contest program (like this one). Deleted qsos are not exported, select the 'DELETEDQS' contest to export these.
 - ◇ **Export ADIF to file by date...** – Create an ADIF file from the selected contest from the date set. The first time the default date from which qso's will be exported is 1900-01-01 (yyyy-mm-dd). The second time the default date and time will be shown by the program and will be the moment you last exported with this option. The date/time can be changed if necessary, i.e. when opening another (older) database. This function is especially useful when you liked o export the generated ADIF file into a (general) logging program to do award tracking etc. Deleted qsos are not exported, select the

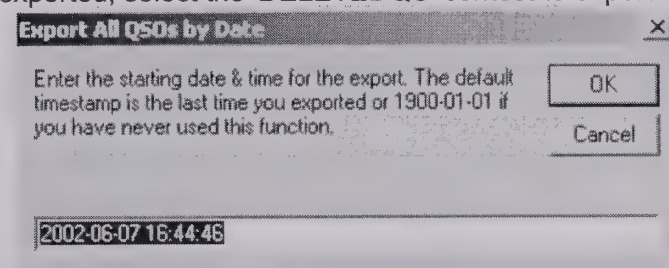
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'DELETEDQS' contest to export these.



- ◇ **Export ADIF to file by date from all contests...** – Create an ADIF file from all qso's in all contests when you are currently logging DX. Otherwise, it exports only from the contest you are logging in. The first time the default date from which qso's will be exported is 1900-01-01 (yyyy-mm-dd). The second time the default date and time will be shown by the program and will be the moment you last exported with this option. The date/time can be changed if necessary, i.e. when opening another (older) database. This function is especially useful when you want to export the generated ADIF file into a (general) logging program to do award tracking etc. Deleted qsos are not exported, select the 'DELETEDQS' contest to export these.



- ◇ **Export ADIF to file by Multi User Station Number** – Create an ADIF file from all qso's from one station in a Multi User environment when you are currently logging DX. Otherwise, it exports only from the contest you are logging in. A station number has to be given after which a filename can be give for the ADIF file to generate.
- ◆ **Export Cabrillo to file...** – Create a Cabrillo file for contest log submission. Make sure that the Station information Tools/Edit Station Data) and overall contest information (File/Choose Contest) is correct before creating this file. It is also a good idea to rescore the contest before submitting.
- ◆ **Export Call History** – Exports the information in the Call History table. This table can only be filled by using Import Call History.
- ◆ **Export Packet/Telnet Buttons to file...** – Export the contents of the Packet/Telnet buttons to file (*.mc). Exported Packet/Telnet buttons can be imported using the menu item 'File | Import Packet/Telnet Buttons from file...'. This way for every kind of packet cluster or different locations a separate set of Packet/Telnet Buttons could be created. The export file can be edited with a *text* editor like Notepad.
- ◆ **Export to File (Generic)**
 - ◇ **Export to File (Generic), order by QSO Time (normal)** – Creates a generic file named [callsign].txt from the contest log order by time (and not by band). In some cases this is the file needed by the contest manager. This file can also be used to import into a spreadsheet or database program or your logging program if it can't import ADIF format. The export file can be edited with a *text* editor like Notepad.



Export to File (Generic), order by Band – Creates a generic file named [callsign].txt from the contest log ordered by band, per band ordered by time. In some cases this is the file needed by the contest manager (like in VHF and up contests).

♦ **Print Score Summary to File** – Print a summary sheet including the shown details to a file with the default name [Callsign].SUM Example: N1MM.SUM The number of contacts printed on the summary sheet are including dupe contacts. The export file can be edited with a *text* editor like Notepad.

♦ **Export Program Settings to file...** – Export the program settings to a file. The default name is 'N1MMsettings.txt' but can be changed. In the Entry Window pane the message 'N1MMSettings.txt created' will be shown. Many settings are written into the registry when the program is closed. Advised is to export after (re)starting the program. Exported settings can be imported using the menu item: 'File | Import Program Settings from file...'

♦ **Export Windows Settings to file...** – Export the window settings to a file. The default name is 'N1MMwindows.txt' but can be changed. In the Entry Window pane the message 'N1MMWindows.txt created' will be shown. All window settings are written into the registry when the program is closed. Advised is to export after (re)starting the program. Exported settings can be imported using the menu item: 'File | Import Windows Settings from file...'

♦ **Export Function Keys to file...** – Export the contents of the function keys to file (*.mc). Exported function key settings can be imported using the menu item 'File | Import Function Keys to file...'. This way for every kind of contest a separate set of function keys could be created. The export file can be edited with a *text* editor like Notepad.

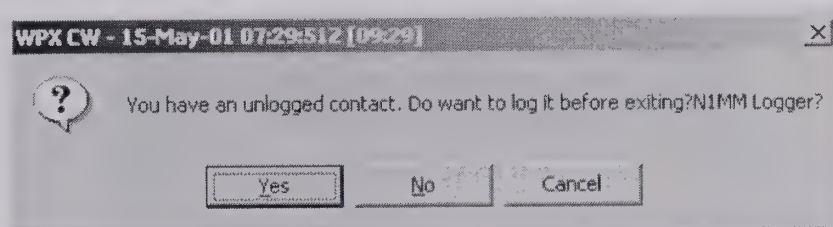
◊ **SSB Function Keys** – export the SSB function keys.

◊ **CW Function Keys** – export the CW function keys.

◊ **Digital Function Keys** – export the Digital Interface function keys.

• **Recently used contests/databases** – The most recently used contest/databases will be shown here with a maximum of ten.

• **Exit Alt-F4** – Quit the program. If two Entry windows (SO2R) the program will not exit. If unlogged contacts are there you will be prompted with the dialog below.



Note: When using ADIF export and the contest name contains "RTTY" or "JARTS" the export mode is set to "RTTY" even when the log file shows otherwise (i.e. LSB).

9.11 Edit Menu Selections

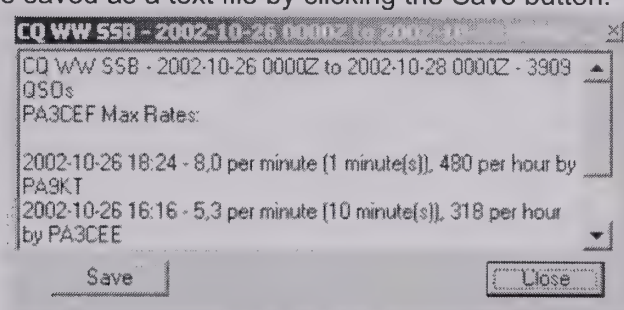
- **Wipe Out Entry Fields Ctrl-W** – Clear information about the current contact (equal to Alt-W).
- **Edit Last Contact Ctrl-Y** – Open a dialog to allow all fields for the last contact to be modified.
- **Add a Note to Last/Current Contact Ctrl-N** – Add a note to your last or current contact
- **Edit Current Contact** – Open a dialog to allow all fields for the current contact to be modified. Double clicking in the Log window on a contact will open the same dialog.
- **Quick Edit Previous Contacts (Back) Ctrl-Q** – Quickly edit the qso's worked before in

the log. Ctrl-Q moves back one qso, Ctrl-A moves forward one qso. If the textboxes in the Entry window are colored blue, you are in Quick Edit mode. To exit, press enter to save changes or Escape to abandon changes.

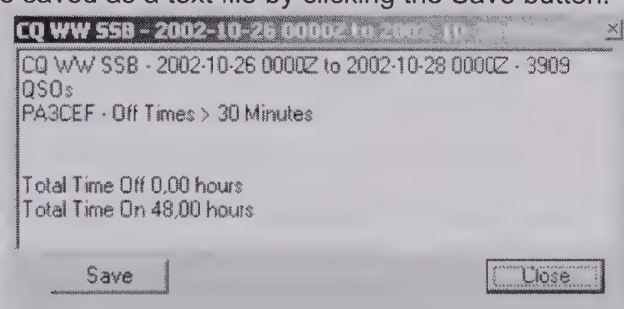
- **Quick Edit Previous Contacts (Forward) Ctrl-A** – Quickly edit the qso's worked before in the log. Ctrl-Q moves back one qso, Ctrl-A moves forward one qso. If the textboxes in the Entry window are colored blue, you are in Quick Edit mode. To exit, press enter to save changes or Escape to abandon changes.
- **Increase Received NR by 1 Ctrl-U** – Increase the number in the exchange field by 1. You will find this useful when you are in a pileup and you need to keep incrementing the dx station's serial number.
- **Find first Ctrl-F** – Find the callsign entered in the callsign field in the log, when not found, a message is shown.
- **Find next Ctrl-G** – Find another instance of the call entered in the callsign field in the log, when not found, a message is shown. You have to start with Find First (Ctrl-F) for the first instance to be found.

9.12 View Menu Selections

- **Max rates** – View 1 minute, 10 minutes and 60 minutes highest rates for the contest. The content shown can be saved as a text file by clicking the Save button.



- **Off Times** – Show off times. Shown is the start and end of the period and the minutes off time, if the operator is known it will be shown. Also the total off time is given in minutes and days/hours/minutes. If a contest does not have an off period, I set it at 30 minutes. The content shown can be saved as a text file by clicking the Save button.



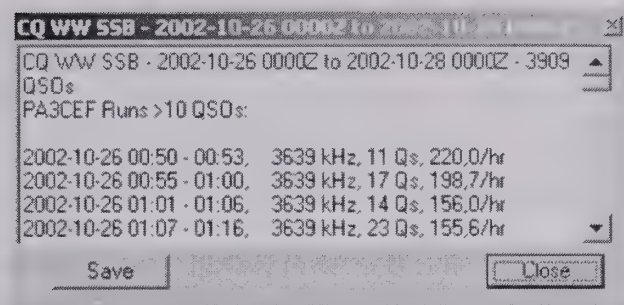
- **Runs** – Shows all runs. These are the periods between band changes and includes off times. The content shown can be saved as a text file by clicking the Save button.

The first part of the paper discusses the importance of the research and the objectives of the study. It then proceeds to a literature review, followed by a description of the methodology used. The results of the study are presented in the next section, followed by a discussion of the findings and their implications. The paper concludes with a summary of the main points and a list of references.

The second part of the paper discusses the importance of the research and the objectives of the study. It then proceeds to a literature review, followed by a description of the methodology used. The results of the study are presented in the next section, followed by a discussion of the findings and their implications. The paper concludes with a summary of the main points and a list of references.

The third part of the paper discusses the importance of the research and the objectives of the study. It then proceeds to a literature review, followed by a description of the methodology used. The results of the study are presented in the next section, followed by a discussion of the findings and their implications. The paper concludes with a summary of the main points and a list of references.

The fourth part of the paper discusses the importance of the research and the objectives of the study. It then proceeds to a literature review, followed by a description of the methodology used. The results of the study are presented in the next section, followed by a discussion of the findings and their implications. The paper concludes with a summary of the main points and a list of references.



- **Suspect Calls** – Show suspect calls using the K1TTT's call checking function. A window will open with the results. The SAVE button saves the contents to a selectable file.
- **Notes** – Open a window and display all contacts with notes. Great feature to check operator notes when checking the log after the contest.
- **Hide Buttons** – Make the Entry window much smaller when selected. The function keys and the Running/Record checkboxes are hidden.
 - ◆ When using ESM mode and the function keys are hidden the function key label(s) from the next key(s) to send is/are shown on the line with country info.
 - ◆ CW speed changes are shown in the status bar when buttons are hidden.
- **Show Last 10 Spots** – Show the last 10 spots for the call in the callsign field. If the callsign field is empty the callsign on the callsign field frame will be used, if any. A Packet or Telnet session with a DX cluster should be present because a query will be send to that cluster.
- **Show Buck/Packet** – Show the Buckmaster information for the call in the callsign field. If the callsign field is empty the callsign on the callsign field frame will be used, if any. A Packet or Telnet session with a DX cluster should be present because a query will be send to that cluster.
- **Show Station** – Show the station information for the call in the callsign field. If the callsign field is empty the callsign on the callsign field frame will be used, if any. A Packet or Telnet session with a DX cluster should be present because a query will be send to that cluster.
- **Show QSL/Packet** – Show the QSL information for the call in the callsign field. If the callsign field is empty the callsign on the callsign field frame will be used, if any. A Packet or Telnet session with a DX cluster should be present because a query will be send to that cluster.
- **Show Sunrise/Sunset** – Show the Sunrise/Sunset information for the call in the callsign field. If the callsign field is empty the callsign on the callsign field frame will be used, if any. (This information is also available in the Info Window). A Packet or Telnet session with a DX cluster should be present because a query will be send to that cluster.
- **SH/DX Current Call or Spot** – Shows dx information from the current call in the callsign field or spot.
- **Show QRZ (Internet)** – Show the information that QRZ.com has for this call using Internet Explorer. An Internet connection should be present.
- **Show Buck (Local)** – Show the Buckmaster database information for this call. This requires installation of Buckmaster database software and database on the local computer.
- **Set Font** – Change the font of the Entry window text boxes.

9.13 Tools Menu Selections

- **Rescore Current Contest** – Rescore the current contest. This is required before submitting a log if CTY.DAT has been changed (if applicable) or if contacts have been modified or deleted during the contest. It may be run at any time but is rather slow.
- **Download Latest Check Partial file (Master.DTA) (Internet)**– This item will open your web browser to the web page where to download the latest version of the chekc partial file. After

[The page contains extremely faint, illegible text, likely bleed-through from the reverse side. The text is organized into several paragraphs and possibly a list or table structure, but the content cannot be discerned.]

downloading this file has to be unzipped (it is a *.zip file) and placed in the N1MM logger program directory (NB. N1MM logger supports the CT format master.dta file).

- **Tune (CW mode) Ctrl-T** – Turn on the radio and send continuous CW (tune). Escape or Ctrl-T again ends the transmission. When the mode is not CW it will be changed to CW and put back in the mode used before. **Tune (CW mode) Ctrl-T** – Turn on the radio and send continuous CW (tune). Escape or Ctrl-T again ends the transmission. When the mode is not CW it will be changed to CW
- **Download latest country file (wl_cty.dat) (Internet)** – This item will open your web browser to the web page where to download the latest wl_cty.dat file. After downloading this new country file has to be imported in the program by selecting 'Tools | Import country list from downloaded file' which is the next menu item.
- **Import country list from downloaded file** – Load a new copy of the country file into the log database. Mostly this file is called WL_CTY.DAT but may have any name. Just select the right file when importing and select "Open". To check which file you are using go into 'Help – About N1MM logger Vx.x.xx" and look at the bottom line which tells you the current country file (mostly cty.dat or wl_cty.dat), check the date and time if it matches the file. Duplicates are ignored during the import so the first instance will be added.
Always load the most recent (and right) CTY.DAT file before entering a contest. Download it from the Internet or use the one sent with the most recent update of N1MM logger.
- **Add call to country** – Specify a country for the callsign in the callsign field in the Entry Window. If no callsign entered this menu item will be grayed out. This is a quick way during the heat of a contest to add a country. Added callsigns to countries are valid until you do a new 'Import country list from downloaded file'. Making changes permanent means changing the imported country file (wl_cty.dat) and importing the changed country file. This feature is for getting stations accepted by the program from countries when otherwise rejected by the program due to a faulty country file. When using the right country the program will accept the station and calculate the right (well at least a more accurate) score (points and multipliers).

9.14 Config Menu Selections

- **Configure Ports, Telnet Address, Others** – Open the configuration dialog to modify setup options.
- **Change Your Station Data** – Modify overall Station information – name, call, address, state, latitude, longitude, etc.
- **Enter sends messages (ESM mode) Ctrl-M** – the so called 'Enter mode'. Messages can be sent by pressing the Enter key. You must correctly match the function keys below to the messages set up in the function key buttons.
Entire normal contact (Running and S&P) can be handled with the Enter key
- **Spot all S&P QSO's** – Spot the contact when you log it. Watch not to flood the packet network. This feature is turned off EVERY time you exit the program. This is to prevent accidental spotting of test qso's or casual ragchew qso's. The section from the spotted station is sent as comment.
A contact is automatically spotted only when:
 - ◆ "Spot all S&P QSO's" is checked **and**
 - ◆ if your running check box is not checked **and**
 - ◆ the spot is not already on your bandmap
- **QSYing wipes the call & spots QSO in bandmap** – The ability to spot all S&P calls locally to the bandmaps. The call is shown **bold** in the bandmap and shown in the callframe. The setting of this feature remains as it was across program restarts. An example is given in the Basic functions chapter.
Example: Tune to 21200, Enter VU2PTT, Tune off, VU2PTT is "spotted" at 21200. Repeat

The fourth part of the document describes the company's approach to marketing and sales. It begins by stating that the company's primary goal is to increase its market share and to attract new customers. To achieve this, the company employs a variety of marketing strategies, including advertising, public relations, and direct sales. The document also mentions that the company uses a CRM system to track customer interactions and to identify potential sales opportunities. It further states that the company's sales team is trained to provide excellent customer service and to build long-term relationships with clients.

The fifth and final part of the document discusses the company's financial performance and future outlook. It begins by stating that the company has experienced steady growth over the past several years, with revenue increasing by 15% annually. It also mentions that the company's profit margins are strong and that it has a solid financial position. The document concludes by stating that the company is optimistic about its future prospects and is committed to continued growth and innovation.

- as long as desired. Go back and work all of them using Ctrl-Up and Ctrl-Dn to navigate.
- **Show non-workable spots** – This allows non-workable spots to be hidden. If you hide spots, you will likely never utilize the program to its full advantage, especially S&P. If you don't know why I am saying this, then *don't* hide spots.
 - **Reset Rx freq when running split** – When using the main VFO to transmit and the other to receive (split mode) after each logged qso the RX frequency will be made equal to the TX (main VFO) frequency. It's there to let you use the main frequency control as an RIT. It resets after every RUNNING qso.
 - **CQ Repeat Alt-R** – Toggle to let the CQ button give CQ once or repeat. The on/off on the status bar determines if the next CQ will go into repeat mode. The only way to stop the repeat (mid stream), and to get completely out of it, is to hit Escape. The function is automatically turned off when no longer on the CQ-frequency.
 - **Set CQ repeat time Ctrl-R** – Specify the repeat interval (CW or SoundBlaster) in seconds or milliseconds (Auto-CQ). The default value is 1.8 seconds.
 - **Call History Lookup** – Toggle to let the contest use the Call History table. In this table station information like Name, GridSquare, Section, State, Age etc. can be stored and retrieved during the contest. This setting will cost some performance because the program has to lookup information when leaving the callsign field from this table in the database. This table has to be filled with 'Import Call History' and the contest has to be suited for it before it can be used!
 - **Record QSOs** – Record current contacts when in CW or SSB and is disabled for other modes. More info can be found in the chapter '[Tips and Tricks](#)'.
 - **Dual Rx always on Ctrl-F9** – Selects the mode for the FT-1000MP with Ctrl-F12 if the dual rx (second VFO) is left on or off when returning from vfo B to vfo A.
 - **Change Packet/CW/SSB/Digital Message Buttons Alt-K** – Change the contents of the Packet/CW/SSB/Digital message buttons. The maximum length of text from the Packet, CW, SSB and RTTY buttons is 255 characters. Alt-K will access the CW/SSB/RTTY exchange buttons depending on the mode you are in.
 - ◆ **Change Packet/Telnet Buttons** – Change the contents of the packet/telnet buttons. Note that the use of '&' in the Button Caption will cause the following lettered key to become a "Alt-Hotkey."
 - ◆ **Change CW Buttons** – Change the contents of the CW buttons. Note that the use of '&' in the Button Caption will cause the following lettered key to become a "Alt-Hotkey". It can happen that the "Alt-Hotkey" combination already exists!. the first one found by the program, probably in the Menu will be used. Another instance won't be used! Also the packet substitutions can be used. Examples:
{F1} {F2} {GRID}
See the possibilities on the [Macros page](#)
 - ◆ **Change SSB Buttons** – Change the contents of the SSB buttons. Note that the use of '&' in the Button Caption will cause the following lettered key to become a "Alt-Hotkey." It can happen that the "Alt-Hotkey" combination already exists!. The first one found by the program, probably in the Menu will be used. Another instance won't be used!
There are some special characters which may be used, see the [Macros page](#) for the possibilities.
 - ◆ **Record CQ SSB message Shift-Ctrl-F1** – Opens the sound recorder using the wav file from the defined CQ button in the configurer (mostly F1). The user has to make the arrangement that it can record to the input of the soundcard (with the microphone).
 - ◆ **Change Digital Buttons** – Change the contents of the Digital buttons. Note that the use of '&' in the Button Caption will cause the following lettered key to become a "Alt-Hotkey." It can happen that the "Alt-Hotkey" combination already exists!. the first one found by the program, probably in the Menu will be used. Another instance

won't be used! Also the packet substitutions can be used. Examples:

{F1} {F2} {GRID}

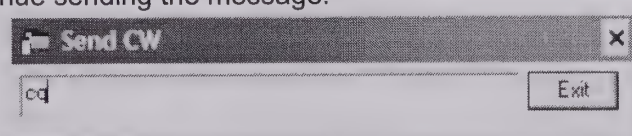
There are some special characters which may be used, see the [Macros page](#) for the possibilities.

- **Change Telnet Cluster List** – Change the contents of the list of available Telnet Cluster sites that appear in the Configurer dialog under 'Telnet Cluster'. Here you can add, edit or delete telnet cluster sites.
- **Multi-User Mode** – Start the networking mode of N1MM logger (Multiple computers connected to each other)
- **Multi-User Tools** – Menu with Multi operator stations tools
For more detailed info see [Multi-user section](#).
 - ◆ **Talk to another station Ctrl-E** – Send a message to another station in the network. '*' will send the message to all stations, to send to only one station, replace the '*' with the station number (0-15).
 - ◆ **Force Time Sync Now** – Force time synchronization with the "Master" computer. This happens automatically at start up and every 5 minutes thereafter.
 - ◆ **Set your pass frequency Alt-Z** – Set pass frequency which is broadcasted to all connected computers. A pass frequency is a frequency that you want your other operators to send stations (usually mults) that they work to. Currently the pass frequency isn't displayed anywhere, but it can be sent via CW or RTTY by using {PASS n} commands. So on SSB, it's not very useful yet.
 - ◆ **Log QSOs at all stations** – Check this option to log all qso's on all stations. All other information (packet spots, pass frequencies) are still distributed to all networked stations if not checked.
 - ◆ **Show Connections** – Show connection info from all the network stations.
 - ◆ **Resync Logs** – Allows a computer to gather all differing qso's from other computers in the network.
- **Edit Station Computer Names** – Associate the computer numbers (starting with 0 for the master station) with its IP-addresses.
- **Change Operator Ctrl-O** – Change the callsign of the operator. If you are multi-user, you will be prompted for the operator at startup. The default is the callsign in the station information dialog. Entering "OPON" in the callsign field will also prompt for an operator callsign.
- **Change Band Ranges – (Not ready yet)** Change the band ranges for the modes CW, SSB, RTTY and PSK. The frequency has to be entered in kHz. Example: 14111 or 21234
 - ◆ **Change CW band ranges** – Change the band ranges for CW.
 - ◆ **Change SSB band ranges** – Change the band ranges for SSB.
 - ◆ **Change RTTY band ranges** – Change the band ranges for RTTY.
 - ◆ **Change PSK band ranges** – Change the band ranges for PSK.
- **Change Exchange Abbreviations** – Change the exchange abbreviations
 - ◆ **Change ARRL Section Abbreviations** – Change the list of valid ARRL Sections
 - ◆ **Change VE Province Abbreviations** – Change the list of the Provinces in Canada.
 - ◆ **Change PA Province Abbreviations** – Change the list of the Provinces in the Netherlands.
 - ◆ **Change USA State Abbreviations** – Change the list of the State Abbreviations of the United States.
 - ◆ **Change CQ WW RTTY Abbreviations** – Change the list of Abbreviations for the CQ WW RTTY contest.
 - ◆ **Change QSO Party Abbreviations** – Change the list of QSO party Abbreviations. Can only be selected when a QSO party is the selected contest.
- **SO2R**
 - ◆ **Dueling CQ's Ctrl+B** – will send CQ (without delay) alternately on each radio.

- ◆ **Resume CQ on Run Radio Ctrl+X** – will start CQ again on the run radio whenever you are not sending on the S&P radio.
- ◆ **TX Lockout** – Select a lockout item.
 - ◇ **Multi-TX** – This is the default setting. Start CQ on radio A, Start CQ on radio B, both are active. (no lockout)
 - ◇ **First one wins** – Start CQ on radio A, pause, Start CQ on radio B. The radio B CQ is ignored since radio A is already active.
 - ◇ **Last one wins** – Start CQ on radio A (CQ starts), pause, Start CQ on radio B. The CQ on radio A will abort and the CQ on radio B will start.
- **Trace Program Execution** – Trace facility. Exports to a selectable file (*.trc). Tracing has been added to all program areas that are used for keying macro's and Multi User connections. If you experience Multi user connecting problems or a macro delay please turn tracing on and hit some macro's a couple of time then close the program and send me the tracing file so I can figure if the delay is in the program or MMTTY....
- **WAE** – Special commands for the WAE DC contest only
 - ◆ **Toggle WAE QTC mode Ctrl-Z** – Toggle the WAE QTC mode between QSO and RQTC.
 - ◆ **WAE Received QTC Confirmation** – Enter the WAE confirmation string or .WAV file

9.15 Window Menu Selections

- **Available Mult's and Q's** – Display the Available Mult's and Q's window
- **Bandmap Ctrl-B** – Display the Bandmap window
- **Check** – Display the Check window
- **CW Key Ctrl-K** – Display the CW Key window. Pressing Ctrl-K again will close the window but will continue sending the message.



- **Digital Interface** – Displays the Digital (RTTY/MMTTY/PSK) interface window
- **Entry Window** – Display the Entry Window.
- **Info** – Display the Info window
- **Log Ctrl-L** – Display the Log window
- **Multipliers by Band** – View a dialog showing multipliers by band or for all bands.
- **Packet** – Display the Packet/Telnet window
- **Score Summary** – View a dialog showing score summary by band

Ctrl-Tab toggles between the Entry window and Packet windows. If other windows are added that have text boxes, then they will be accessed in a round-robin basis via Ctrl-Tab

9.16 Help Selections

- **Help Alt-H** – Show this help file. Note that pressing Alt-H in any window will show the help specific to that window. You have to download the help file separately from the N1MM homepage and copy the file into the directory that contains the Logger program.
- **Key Assignments Help** – Show this Key Assignments chapter of the help file.
- **Manual** – Show the PDF version of the help file, this version can easily be printed. You have to download the manual separately from the N1MM homepage and copy the file into the directory that contains the Logger program. At that point, clicking on Help->Manual should launch the Adobe Acrobat Reader and display the Manual.
If you don't have the Acrobat Reader (version 3 or higher is needed), you can download a

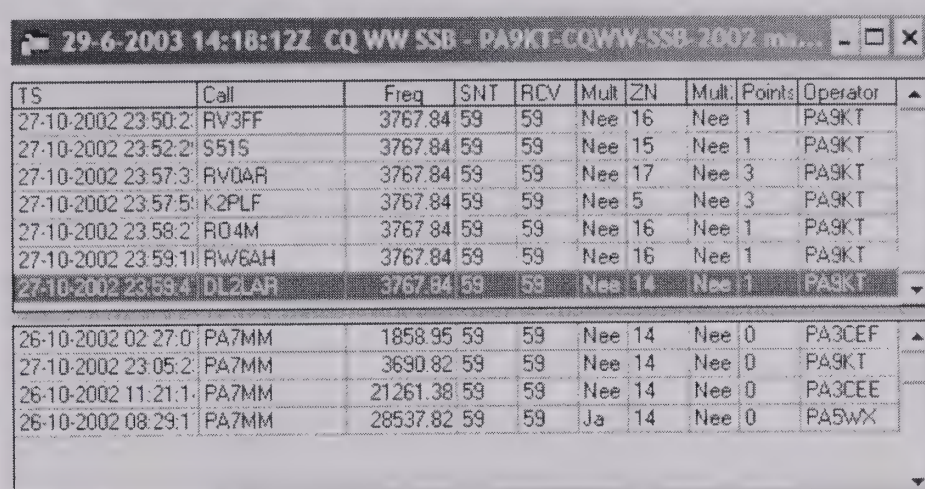
[The text on this page is extremely faint and illegible. It appears to be a multi-paragraph document with several sections of text, but no specific content can be discerned.]

free copy from <http://www.adobe.com/support/downloads/acrwin.htm>

- **Contest rules for this contest (Internet)** – Go to the website from the contest sponsor on the Internet where the rules can be found.
- **ARRL Contest Calendar Page (Internet)** – Go to ARRL contest calendar site on the Internet.
- **SM3CER Contest Calendar (Internet)** – Go to the SM3CER contest calendar site on the Internet.
- **VK4DX Contest Calendar (Internet)** – Go to the VK4DX contest calendar site on the Internet.
- **Show Latest Version Number (Internet)** – Goes to the internet and displays the latest available version from the download page. Also the current version is displayed.
- **Download Latest version (Internet)** – Downloads the latest version from the web and place the zip file in the N1MM logger program directory. Extracting all the files in the downloaded update file has to be done with the N1MM logger program closed.
- **N1MM Logger Home Page (Internet)** – Go to the N1MM logger Home page.
- **Download Help (English version) (Internet)** – Download the Help file from the N1MM logger Home page.
- **Yahoo Discussion Group (Internet)** – Go to the Yahoo Discussion Group page on the Internet.
- **Report Bugs/Request Features/Request Support (Internet)** – Go to the N1MM logger website to report a bugs or request features.
- **Email Problem Report (Internet)** – Send a problem report by Email to Tom, N1MM. The Report gives detailed info about the problem and some program (configuration information) and computer information (speed, processor etc.). To send a report some questions must be answered.
 - ♦ Long description of the problem
 - ♦ Enter your smtp server name. (Only first time)
 - ◇ Just check your e-mail program and look for the name of the outgoing e-mail server that you use. Use that name for the smtp server name. Example: smtp.freeler.nl
- **View Revision History (Internet)** – Shows the revision history from the program on the internet.
- **View Revision History (last downloaded)** – Shows a local view of last downloaded revision history on harddisk. Avoids need for internet connection.
- **View Error Log** – View the latest 'Errorlog.txt' file generated by the program. The program creates and updates the contents of this file when the program generates an error. This could be used to help pinpointing a problem in the program.
- **View database statistics** – Shows the following database statistics: Number of reads, Cached reads and Cached reads from read-ahead cache.
- **Report Score to 3830 (Internet)** – Go to the 3830 score reporting site on the Internet.
- **About N1MM logger Vx.x.xxx** – Show the About Dialog. See the tower from Tom (N1MM) with a Cushcraft X9 at the top!

10 Log Window

Your Log window will be similar to this one.



TS	Call	Freq	SNT	RCV	Mult	ZN	Mult.	Points	Operator
27-10-2002 23:50:2	RV3FF	3767.84	59	59	Nee	16	Nee	1	PA9KT
27-10-2002 23:52:2	S51S	3767.84	59	59	Nee	15	Nee	1	PA9KT
27-10-2002 23:57:3	RV0AR	3767.84	59	59	Nee	17	Nee	3	PA9KT
27-10-2002 23:57:5	K2PLF	3767.84	59	59	Nee	5	Nee	3	PA9KT
27-10-2002 23:58:2	R04M	3767.84	59	59	Nee	16	Nee	1	PA9KT
27-10-2002 23:59:1	RW6AH	3767.84	59	59	Nee	16	Nee	1	PA9KT
27-10-2002 23:59:4	DL2LAR	3767.84	59	59	Nee	14	Nee	1	PA9KT

26-10-2002 02:27:0	PA7MM	1858.95	59	59	Nee	14	Nee	0	PA3CEF
27-10-2002 23:05:2	PA7MM	3690.82	59	59	Nee	14	Nee	0	PA9KT
26-10-2002 11:21:1	PA7MM	21261.38	59	59	Nee	14	Nee	0	PA3CEE
26-10-2002 08:29:1	PA7MM	28537.82	59	59	Ja	14	Nee	0	PA5WX

- The **top** grid is the log
- The **bottom** grid shows the contacts in yellow that match the partial or full call entered in the Entry window. It is sorted by band, call, date & time.
- The separator bar is set at a percentage of window size. When shrinking the window, both sections get smaller. After resizing the window, decide how much space to allocate to dupes by setting the separator bar.
- The upper pane gives date and time (in UTC) and the selected contest.
- When a Multi operator mode (Multi-One, Multi-Two, Multi-Multi) is selected the operator name is shown in the log window
- When Multi-User is selected the radio number is shown in the log window
- Group edits are not allowed while in multi-user mode.

The relative sizes of the grids can be adjusted by clicking and dragging the gray bar between the grids. The adjusted window size and the column width are saved by the program.

In a serial number contest the serial numbers in the log window will be displayed without any leading zeros even when zeros are entered before the number (like 001). When printing the leading zeros will be printed.

10.1 Keyboard Assignments

- **Enter (Ctrl-T)** – Edit the contact which is selected.
- **Delete (Ctrl-D)** – Delete the contact which is selected.

10.2 Mouse Assignments

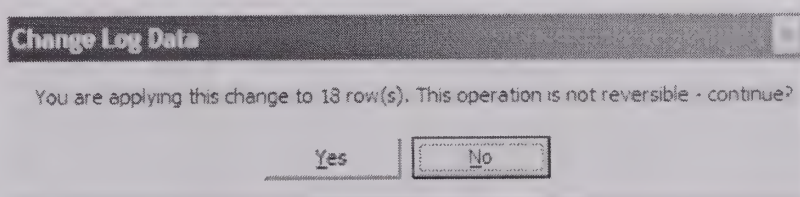
- Left mouse button click
 - ♦ **Single click on column title** – Change log sort order.
 - ♦ **Double click on a contact** – Edit the contact.
- Right mouse button click
 - ♦ **Right-click on a contact** – Displays a menu:
 - ♦ **Edit Contact (Ctrl-T)** – Edit the contact.

- ◇ **Delete Contact (Ctrl-D)** – Remove the contact from the log.
Warning – Deleted contacts invalidate the computed score. You MUST rescore the contest (Tools/Rescore Contest) before submitting it to the contest sponsor, or the computed score will be incorrect.
- ◇ **Play Contact** – This selection will be gray, if there is no .WAV recording file for this contact. If it is not gray, the selection can be chosen and the contact audio will play on your default sound player. (Make sure you don't have the sound card hooked up to your microphone! Make it switchable between your transceiver headphone)
- ◇ **Jump to this frequency** – Jump to the frequency logged with this contact
- ◇ **www.qrz.com** – Ask information about this station from www.qrz.com (name, address etc.). An Internet session should be available.
- ◇ **Change All Contact Timestamps by a Fixed Amount** –this will fix a log where all QSOs are off by a common amount of time
 - Put mouse over log window and right click
 - Select "Change All Contest Timestamps by a Fixed Amount"
 - Dialog box will open, and enter offset time (+ or -) in minutes

Date will automatically adjust if the offset rolls a QSO into a different day. Time is entered in minutes, and can be negative time to go backwards. (You might need a calculator to determine the offset minutes if your date was off by many days, months, or years)

NOTE: While you can easily adjust for a mistake by doing another offset, it is advisable that you backup your log before doing any changes.

- ◇ **Change Operator** – Change operator callsign for this contact (Multi-user). The default is the station callsign. When selecting several rows, the change will be applied to all rows. This operation is not reversible. See example picture.



- ◇ **Change Mode** – Change the mode for this contact. When selecting several rows, the change will be applied to all rows. This operation is not reversible. See example picture above.
- ◇ **Change Rx Tx Frequency (and band)** – Change the RX and TX frequency for this contact. When selecting several rows, the change will be applied to all rows. This operation is not reversible. See example picture above.
- ◇ **Change Station Number** – Change the station number for this contact (Multi-user). The Master station always has number 0. When selecting several rows, the change will be applied to all rows. This operation is not reversible. See example picture above.
- ◇ **Find all contacts with a station** – Search a call (station) in the logged contacts from this contest.
- ◇ **Set Start Interpolation Time Row** – Set the start row and time from where time interpolation has to begin. An example how to use can be found in the chapter 'After the contest'.

- ◇ **Set Stop Interpolation Time Row** – Set the stop row and time from where time interpolation has to stop. This menu item is only highlighted when a start time has been entered. An example how to use can be found in the chapter 'After the contest'.
- ◇ **Rescore from this point on** – Rescore the contest starting with this logged contact till the end of the log.
- ◇ **Delete custom column widths** – Delete the custom column widths and go back to the default column widths as set per contest.
- ◇ **Show date** – Select or deselect showing the date in front of the time (first column log window).
- ◇ **Select All** – Select all qso's in the log (for copy and paste actions)
- ◇ **Copy**
 - **Copy Generic Print String** – Copy generic print string to clipboard
 - **Copy ADIF String** – Copy ADIF string to clipboard
- ◇ **Set Font** – Set the font for the Log window, a selection window will appear.
- ◇ **Help** – Show the help file for this window.

5. The fifth part of the document discusses the role of the management in ensuring the integrity of the financial system. It describes the various responsibilities of management, including the preparation of the financial statements and the implementation of internal controls.

11 Bandmap Window

Your Bandmap window will be similar to this one.



The Bandmap Window represents a VFO or a radio. There are two scenarios, one radio with 2 VFOs displayed, or two radios with one VFO shown for each radio.

11.1 One radio scenario

With one radio, each bandmap holds one vfo. Typically, VFO A will be on the left and VFO B will be on the right. If you want to change VFOs, just use the mouse to click on one of the spots in the bandmap or use the Ctrl-left & Ctrl-right arrow keys to change VFOs. The radio information box at the top of the bandmap will change colors as you change VFOs. The selected Bandmap will have a blue top.

11.2 Two radio scenario

With two radios the operation is exactly the same, except that each bandmap represents one of the radios. It is best if one orients the bandmaps in the same position as the radios, left-right or top-bottom. This will make operation more intuitive.

11.3 Other

It is well worth your time to quickly review the Mouse Assignments below in order to become familiar with the functions that the Bandmap provides.

Also important! The usefulness of the Bandmap is greatly enhanced by reading the Key Assignments

The text *CQ-Frequency* will be shown on the bandmap when running stations. It is automatically marked when you press the F1-key or the CQ-button.

When a spot is less than three minutes old NEW will be placed behind the call and bearing in the bandmap. When the station works split the receive frequency (qsx frequency) will be shown behind the bearing after the spot is three minutes old, there is not enough room to give both NEW and the qsx frequency.

The bearing to a station is shown only for stations outside your own country.

On the title bar of the bandmap you can see what type of radio is connected. It will show Manual – A when no radio is connected or as an example Kenwood VFO A when a Kenwood radio is connected. It will show a B for the other bandmap/VFO.

Normally only one frequency is shown in the top portion of the bandmap. This is the receive and transmit frequency. When working split the transmit frequency is added and shown just below the receive frequency.

Busted spots (calls with "BUST" in it) are not shown on the bandmaps (when coming in via packet/telnet).

When both bandmaps are closed the frequency and mode is shown on the title bar of the Entry window before the contest name.

On CW, the default zoom is too dense for a busy contest. Use right-click to zoom or use the numeric pad +/- keys.

11.4 Colors of the incoming spots:

- **Red** – A new multiplier, work this one first!
- **Blue** – You haven't worked this one before. Get him.
- **Gray** – Dupe or an unworkable station in a non-workable country. Don't bother working him. I.e. you don't need this station because he is a dupe or you are not even 'allowed' to work him in this contest according the contest rules.
- **Bold** – This is a self spotted call ('Stored' or by using the feature 'QSYing wipes the call & spots QSO in bandmap') and not coming from the cluster.

11.5 Keyboard Assignments

- **Numeric keypad + key** – Zoom In to show less spots from the bandmap which has KEYBOARD focus.
- **Numeric keypad – key** – Zoom out to show more spots from the bandmap which has KEYBOARD focus.
- **Shift – Numeric keypad + key** – Zoom In to show less spots from the bandmap which NOT has KEYBOARD focus.
- **Shift – Numeric keypad – key** – Zoom out to show more spots from the bandmap which NOT has KEYBOARD focus.

11.6 Button Assignments

- **Narrow** – Toggle the radio filters from Wide to Narrow, or vice versa. The label indicates the current state.
Note N1MM: I never should have implemented this feature because of the many filter settings possible on all different radios. I did it for my radio, not fully realizing what a nightmare it would be to support for all users. It's a moderately useful feature, but to make it work for all radios is a HUGE amount of work. I think we are stuck with it for a while.
- **USB** – Click this label to toggle from **USB/LSB** (band sensitive) via **RTTY** to **CW** (radio dependent).
- **RIT Offset (-0.08)** – Click this label to clear the RIT offset.
- **RIT** – Click this label to toggle the RIT on and off.
- **XIT** – Click this label to toggle the XIT on and off.

11.7 Mouse Assignments

- **Click on frequency** – Jump to that frequency.
- **Shift-Click on frequency** – Jump to that frequency on the non active bandmap. This allows you to be active on vfo-A, but change the frequency on vfo-B without making that the active vfo (or radio).
- **Click on call** – Jump to that frequency and place the call on the Entry window callsign frame. When the callsign field is empty, giving space will copy the callsign from the Entry window callsign frame to the callsign field. Also clicking on the callsign in the callsign frame will place call into callsign field, replacing anything that was previously there.
- **Double-Click call** – Jump to that frequency, place call into Entry window callsign field, replacing anything that was previously there. Spots with 'Busy' in the call will be ignored (placed in the bandmap when using Alt-M).
- **Click dial ticks** – Jump to that frequency.
- **Click frequency label** – Jump to that frequency.
- **Right Click call** – Display a list of options for the call (many are Packet Window options).
- **Right Click anywhere else** – Display a list of options with some options grayed out which are call related.

11.7.1 Right-Click menu

If you right click in the Bandmap Window the following menu items will appear. Not all menu items are always shown.

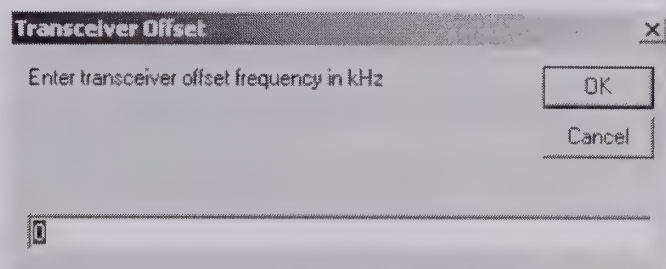
- **Zoom In** – Show less spots on the bandmap which has keyboard focus.
- **Zoom Out** – Show more spots on the bandmap which has keyboard focus.
- **Go to Bottom of Band** – Go to the bottom of this SSB/CW subband.
- **Go to Top of Band** – Go to the top of this SSB/CW subband.
- **Remove Spot** – Remove this spot from the bandmap. A spot on same frequency will be put in callframe.
- **Remove All Spots** – Remove all spots from this bandmap.
- **Show Last 10 Spots** – Show the last 10 spots for this call in the packet or telnet window.
- **Show/Buck Packet** – Show the Buckmaster information for this call in the packet or telnet window. Uses SH/QRZ if format for DXspider is chosen in configurer.
- **Show Station** – Show the station information for this call in the packet or telnet window.
- **Show QSL/Packet** – Show the QSL information for this call in the packet or telnet window.
- **Show Sunrise/Sunset** – Show the Sunrise/Sunset information for this call in the packet or telnet window. (This information is also available in the Info Window).

First main paragraph of handwritten text, consisting of several lines.

Second main paragraph of handwritten text, consisting of several lines.

Third main paragraph of handwritten text, consisting of several lines.

- **Show Buck/Internet** – Show the information that QRZ.com has for this call using Internet Explorer.
- **Show Buck Local** – Show the Buckmaster database information for this call. This requires installation of Buckmaster database software and database, also see the Files section from Configurer.
- **Set transceiver offset frequency** – This is for transverter supporting transverters. Enter the transceiver offset frequency in kHz (minus is allowed). Example: 116000 when using a transverter from 28 MHz to 144 MHz ($144000 - 28000 = 116000$). The same for other bands (up or down). The transverter offset is saved when the program closes and read again when opened. Remember to enter the frequency of the transceiver and not that of the transverter when going into split mode (Alt-F7).

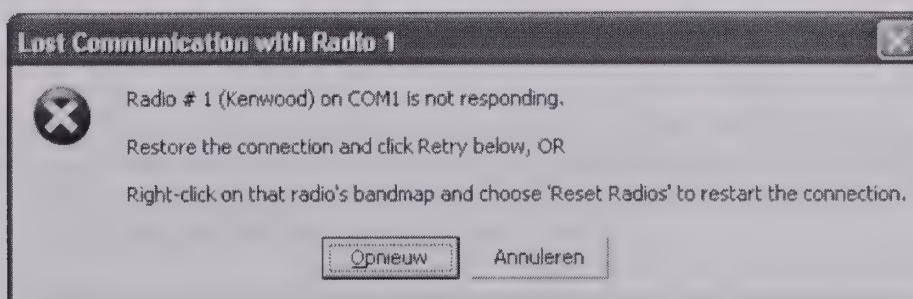


- **Set transceiver timeout time** – timeout value for each radio (default is 10 seconds)
- **Set transceiver filter codes** – You will be prompted for the wide or narrow string to set the filters. For Kenwoods, it's pretty easy. You just look up in your manual the string you want and enter it. For other radios, like FT-1000MP, it's harder. You must enter a series of space-delimited codes in DECIMAL. Therefore, when an FT-1000MP filter code of 0 0 0 0 8C is required, you must enter 0 0 0 0 140. I know this isn't fun, but hopefully the user group will help out on documenting this and let those who do not have familiarity with programming set their codes.

To reset to the default values in the program enter a space and press the OK button

It is possible to use {CR} in the filter codes which will be replaced with the return character.

- ♦ CW Wide
- ♦ CW Narrow
- ♦ SSB Wide
- ♦ SSB Narrow
- ♦ Digi Wide
- ♦ Digi Narrow
- **Bring to foreground when made active** – This brings the active bandmap to the foreground. When not having enough real estate on the monitor screen it is possible to place both bandmaps on top of each other. The active bandmap will be shown hiding the non-active bandmap.
- **Reset Radios** – Allow manual reset of radios. When contact with the radio is lost the dialog below will appear. Select 'Retry' to restore the connection with the radio or Right-Click on that radio's bandmap and choose "Reset Radios" to start the connection.



- **Help** – Show the help file for this window.



When a command is sent to the packet window, it is sent to whichever connection is active.



When the connected cluster is a DXSpider cluster, select on Tab: Other in the Configurer 'Format for DX Spider cluster'.

11.8 Hovering with the mouse over a spot

Hovering with the mouse over a spot in the Bandmap gives the following info about the spotted station:

- Exact frequency sent by spotter.
- Callsign of spotter.
- The time in minutes since the station was placed on the DX cluster network.
- Comments sent with the spot.
- The 'standard' country prefix from the spotted station

11.9 Hovering with the mouse over RX arrow

Hovering with the mouse over the RX arrow shows the frequency.

11.10 Example bandmap usage

by Tom, N1MM I.e. in S&P, the callframe will show you each spotted station as you come within "tuning tolerance" (user settable) of that station. I'm terrible at remembering whether I worked a station and on what frequency. With worked stations in the bandmap, the program will tell you that they are not workable again. You can tune by them more quickly. The same feature is useful in contests with unworkable stations. In a contest like CQWPX, with (basically) no value mults, here is how I use the bandmap. Whenever I can't get a run going I start s&P on a band with a lot of unworked stations (use the available window). I use ctl-up and down to go to the next station. If that station is at the beginning of a qso, I move to the next one. If the qso is near the end, I wait and work the station. Then I move on. If I reach the top of the band, I start coming back down the band, working the ones I missed on the way up. If there is no station at a frequency, that's my new run frequency! In contests with valuable mults, you use ctl-alt up/down to get the mults first, then go back & get the q's. If the rate drops fairly low, sweep the band using your vfo. That is where the old calls in the bandmap come in useful. If you copy a call, but it seems like it is going to take a long time to work him, tune to the next guy. If you have "QSYing wipes the call & spots QSO in bandmap" turned on, the call will be spotted in bold, so you can ctl up/down to him later. Remember: if a call is in the callframe, space will load it into the call textbox. If all this seems very unfamiliar, you haven't read the key assignments help. Reading that single item is your single best time investment in using this program.

11.11 Spots and the time shown

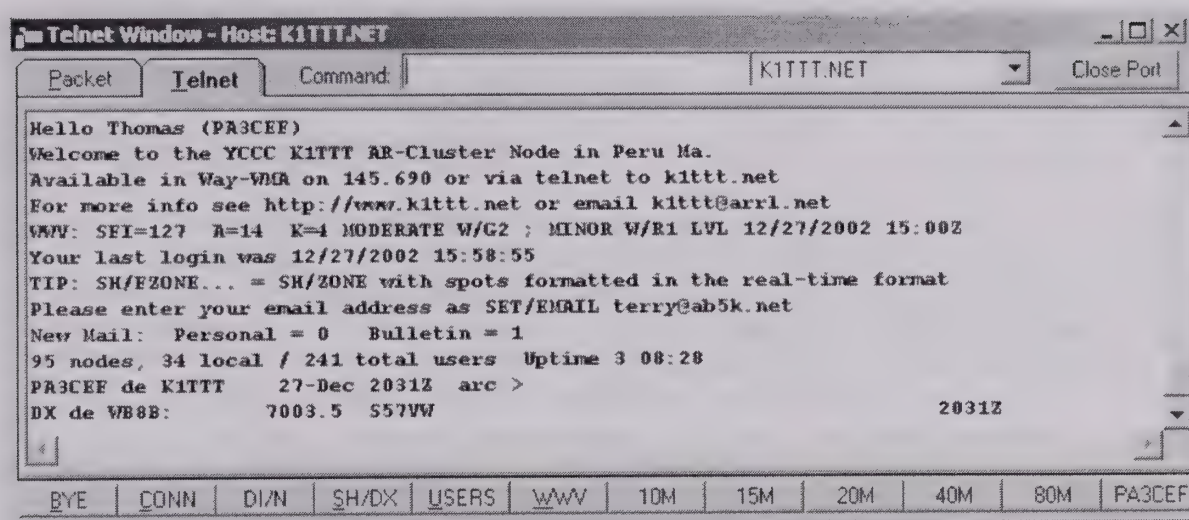
When you mouse hover over a spot in the bandmap, it will show you the relative age of a spot in minutes. The time shown here depends on the spot format. There are two formats for spots. One is for current spots, one is for sh/dx spots. Some clusters allow you to show old spots in the current spot format. The program handles the two types of spots differently.

- Current spots go in with your computer's local (converted to Z) time. This is to remove variations in cluster times and order the spots into the time they were received.
- Old spots are logged with the originating cluster's time with the provision that it cannot be later than the current local (z) time.

With AR-Cluster you can display old spots with sh/dx or sh/fdx. It is recommended to use sh/dx, as it will be recognized as an old spot. Other cluster software may have similar capabilities.

12 Packet Window

Your Packet window will be similar to this one.



The button values can be changed by *right clicking* on them or going into the menu: Config / Change Packet/CW/SSB/Digital Message Buttons / Change Packet/Telnet Buttons. Connect and other messages are shown in the bottom pane from the Entry window. Status info is given for Telnet in the Telnet window title. Focus is set to the Entry window when one of the 12 buttons is clicked.

All incoming packet spots are placed on the bandmaps. Also the spots requested with commands like SH/DX etc.

If in the comment of the spot split frequency information is given it will be recognized. When such a spot is selected the transceiver will go into split mode (if applicable). Recognition by the program is on UP, U, DOWN, DN, D and the word QSX. Examples: QSX 3.838, QSX 4, UP 5, DOWN 2, U 5 etc.

When telnet is selected a Telnet DX-cluster can be chosen from the top of this window. By clicking the 'Close Port' button the current connection will be closed. A telnet port (cluster) has to be added in the configurator dialog.

Packet/Telnet has a nine minute stay-alive function which is not configurable. It sends a cr every nine minutes. If you send a message, the timer is restarted.

12.1 Initial Button Assignments

- **BYE (F1)** – Log off packet.
- **CONN (F2)** – Connect to packet cluster (you'll need to set your cluster's call in Tools/Change Packet Buttons).
- **DI/N (F3)** – Show new messages needs the full: directory/new).
- **SH/DX (F4)** – Show last 30 dx spots.
- **USERS (F5)** – Show packet users.
- **WWW (F6)** – Show WWW spots
- **10M (F7)** – Show last 30 10M spots.
- **15M (F8)** – Show last 30 15M spots.

Table 1: Summary of Data	
Category	Value
Category A	10
Category B	20
Category C	30
Category D	40
Category E	50
Category F	60
Category G	70
Category H	80
Category I	90
Category J	100

The following table provides a detailed breakdown of the data presented in Table 1. The data is organized into two main sections: 'Category A' and 'Category B'. Each section contains a list of items and their corresponding values.

Category A items include: Item 1, Item 2, Item 3, Item 4, Item 5, Item 6, Item 7, Item 8, Item 9, Item 10. Category B items include: Item 11, Item 12, Item 13, Item 14, Item 15, Item 16, Item 17, Item 18, Item 19, Item 20.

The total value for Category A is 100, and the total value for Category B is 200. The overall total value is 300.

The data is presented in a clear and concise manner, allowing for easy comparison and analysis of the different categories and items.

The following table provides a detailed breakdown of the data presented in Table 1. The data is organized into two main sections: 'Category A' and 'Category B'. Each section contains a list of items and their corresponding values.

Category A items include: Item 1, Item 2, Item 3, Item 4, Item 5, Item 6, Item 7, Item 8, Item 9, Item 10. Category B items include: Item 11, Item 12, Item 13, Item 14, Item 15, Item 16, Item 17, Item 18, Item 19, Item 20.

The total value for Category A is 100, and the total value for Category B is 200. The overall total value is 300.

The data is presented in a clear and concise manner, allowing for easy comparison and analysis of the different categories and items.

- **20M (F9)** – Show last 30 20M spots.
- **40M (F10)** – Show last 30 40M spots.
- **80M (F11)** – Show last 30 80M spots.
- **{MYCALL} (F12)** – Call for logging into telnet cluster. The callsign is taken from the station information dialog.
- **Close Port** – Close the current Telnet connection.

12.2 Keyboard Assignments

- **Ctrl-C** – Sends Ctrl-C to the TNC which is used by TAPR TNCs.
- **Ctrl-Z** – Sends Ctrl-Z to the TNC which is used by TAPR TNCs.
- **Shift-Escape** – Places an Escape character on the command line which is send to the TNC after pressing Enter. The Escape character is being used by WA8DED/ TF firmware TNCs. The Packet/Telnet window must be active and the cursor must be on the command line. N.B. The Escape key (without the Shift key) makes the Entry Window active.

12.3 Mouse Assignments

- **Left mouse button**
 - ♦ **Single click** – Tune the active radio to the frequency of the spot.
 - ♦ **Shift-click** – Tune the *inactive* radio to the frequency of the spot.
 - ♦ **Double click** – The spot under the cursor will be placed in the callsign field (Entry window)
- **Ctrl-Single click** – Tune the non-active radio to the frequency of the spot and make it active.
- **Right mouse button** – Displays a menu:
 - ♦ **Configure Ports, Telnet Address, Other** – Displays the 'Configurer' dialog.
 - ♦ **Edit Telnet Cluster List** – Displays the 'Change Packet Cluster List' dialog.
 - ♦ **Change Packet/Telnet Buttons** – Change the label and text associated with the packet/telnet buttons.
 - ♦ **Close Port** – Close the packet or Telnet connection (depends on the selected Tab)
 - ♦ **Specify Comment for All Spots** – Enter the text you want appended to every spot. Lasts for the session only. Exit clears it. Example: PACC
 - ♦ **Packet Spot Timeout** – Indicates how long (in minutes) spots are kept in the bandmaps. The default is 60 minutes, any integer may be specified.
 - ♦ **Auto logon** – When running telnet, auto logon will press the rightmost button (default is your call). When running packet, auto logon will press the second button: "C call". When running both, only the one that was in focus will be restarted.
 - ♦ **Allow spots from my country only** – When selected only spots originated from your own country will be shown in the bandmaps.
 - ♦ **Allow spots from my continent only** – When selected only spots originated from your own continent will be shown in the bandmaps.
 - ♦ **Allow only spots from specified call areas** – When selected only spots originated from specified callareas will be shown in the bandmaps. The spots can be specified at the next menu item. A callarea is the country prefix + the first number in the call. Example: Call: WB1KK Callarea: K1 (K + 1)
 - ♦ **Enter call areas (currently)** – Call area filter for the menu itme above. Enter list of callareas to pass seperated by spaces. Example: K1 K2 K3 K4 and select the OK button. To clear the list enter only a space and press the OK button.
 - ♦ **Allow HF** – When selected all spots are passed to the bandmaps on the HF bands (< 30 MHZ)

- ◆ **Allow VHF** – When selected all spots are passed to the bandmaps on the VHF bands (> 30 MHZ).
- ◆ **Allow WARC** – When selected all spots are passed to the bandmaps from the WARC bands.
- ◆ **Allow spots for this contest's mode(s) only** – Only allow spots where the mode is equal to the mode set in the contest setup.
- ◆ **Remove all spots** – Remove all spots from the bandmaps. This means that also all information on the Available Mults and Q's window is cleared.
- ◆ **Set Font** – Change the font of the packet & telnet text boxes. Fixed fonts (like fixedsys, courier, Anadale Mono which has slashed zero etc.) are recommended, so that columns will line up.
- ◆ **Copy** – Mark a part of the packet window with the left button, then right-click and choose copy. The selection will disappear before you choose copy, but that doesn't matter. You can then paste into Word or Notepad or whatever you like.
- ◆ **Help** – Show the help file for this window.

12.4 Special keys:

- Holding the Ctrl key while clicking in the packet window will jump the non-active radio to that frequency and make it active

12.5 Macro keys

Macro key substitution is supported by the buttons in the Packet window.
The macros which can be used and some examples can be found on the [macros page](#).

12.6 How to setup Telnet to access a cluster

1. Add the telnet address to Config/Change Telnet Cluster List. Use gb7ujs.shacknet.nu as a model for how to specify a port other than 21.
2. Choose the new address from the list at the bottom of Config/Configure Ports, Telnet Address, Other.
3. Click on the Telnet tab in the Packet window.
4. Click on the button with your callsign in it (button contents can be changed). This presumes that the cluster you are using is looking for your callsign as the first thing to be sent (it mostly is).

12.7 How to add/edit/delete a Telnet cluster

There are three places where you can get to the 'Change Telnet Cluster List' dialog. Select one of them.

- Right click in the Packet / Telnet window and select 'Edit Telnet Cluster List' or
- Select 'Config' , 'Change Telnet Cluster List' or
- Select 'Config' , 'Configure Ports, Telnet Address, Others' and click on the 'Edit' button.

The 'Change Telnet Cluster List' dialog will appear. You can go to the bottom of the list and add what you want. Look at the already entered Telnet clusters to see what to enter.
To delete a row, click on the row "handle" – the gray arrowhead – and press the 'Delete' button on your keyboard.
To edit an entry select the field to update and enter the new information.

12.8 Supported Packet clusters:

- **AR-Cluster** by AB5K
- **Clusse** by OH7LZB (not fully supported, only incoming spots)
 - ♦ To make Clusse more compatible give the command **SET/PCMODE YES** (typed in uppercase).
 - ♦ Only incoming spots will be decoded by N1MM logger (not the respons to the List command)
 - ♦ The List command (SH/DX) has a different format and will not be decoded.
- **CLX** by DJ0ZY and DL6RAI
- **DX-spider** by G1TLH
 - ♦ DX-spider uses a different SH/DX format, check in 'Configurer / Other' the setting 'Format for DX-spider support'. This will send the right SH/DX message from the button in the top of the bandmaps.
- **DXnet** by F5MZN (Unknown if fully supported but it probably is)
- **PacketCluster** by AK1A
- **Wincluster Lite** by KH2D

12.9 Spotting stations

Spotting stations has to be done from the Entry window. The station entered in the callsign field will be spotted. If the callsign field is empty the last qso made will be spotted.

- Alt-P spots stations
- Ctl-P spots them with a comment
- Spot all S&P QSO's

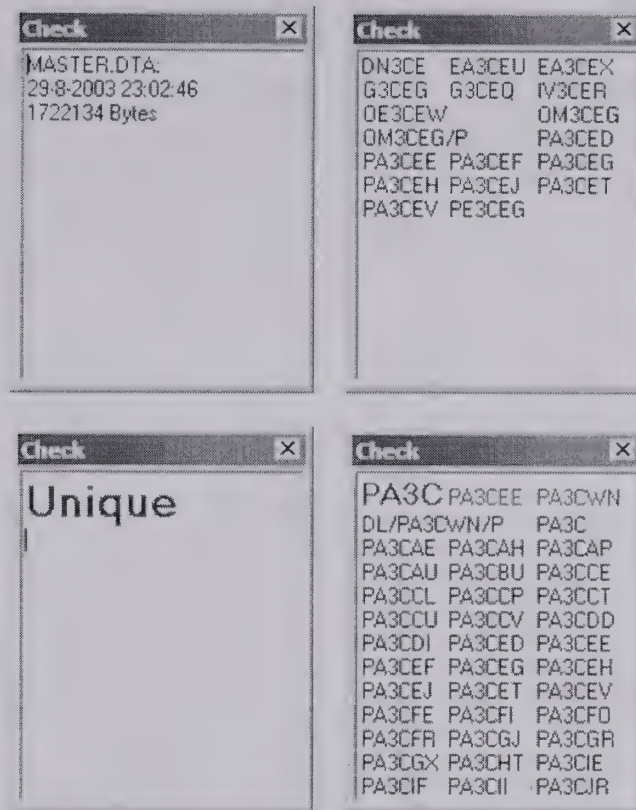
The frequency from the spotted station is rounded to one decimal place by the program.

12.10 Other info

It is possible to connect to Telnet hosts when the internet connection is on a LAN via proxy server or router. First try to access the Telnet cluster via the Telnet program in Windows, if this works it should also work from within N1MM logger. It does not matter if the proxy is in software or hardware. Port 23 (=telnet) should be open.

13 Check Partial Window

Your Check Partial window will be similar to this one.



13.1 Features

- Check partial displays all the callsigns from the MASTER.DTA file *and* worked calls from the current log, which match the letters/numbers in the callsign field of the Entry window.
- Columns are used to allow horizontal display.
- When the program is started and no callsign is entered the Check window will show the date, time and length of the MASTER.DTA file (picture 1).
- Entering **3CE** in the callsign field will give AA3CE, DF3CE, PA3CEF and all others with 3CE in the callsign (picture 2).
- When there are no matches found UNIQUE will be shown in big red letters (picture 3).
- When the entered letters match a worked station the callsigns will be shown in **red** (PA3CEE and PA3CWN in picture 4) when they have been worked on this band and in **blue** when worked on another band..
- When a callsign entered matches a call in the log, the callsign in the Check partial window will be set to **bold** and 12 point font and colored **red** or **blue** (PA3C in picture 4).
- When the station entered is a dupe it will be shown in **red** and the text – **Dupe!** will be added. Example: **PA1M – Dupe!**
- The Check Partial window is cleared when a character is typed in the callsign field in the Entry window, so clearing the callsign filed won't clear the Check Partial window.
- All data is shown in upper case and is stripped from non standard ASCII characters.

13.2 Wildcard search

If one or more characters are not known a **?** may be used. It needs two sequential characters like **N?MM** or **N1?** to find the call. So **M?M** will not work!

Searching for leading wildcards is also implemented. I.e. **?1M** does match KN1M but also N1MM.

Examples:

- PA?M** will match PA1M, PA7MM etc.
- P?1M** will match PA1M, PG1M, PF1MO etc.
- P?3** will match no callsigns because there are no two sequential characters
- ?1M** will match N1MM, KN1M, PA1M etc.

13.3 Colors of the incoming spots:

- **Red** – An already worked station on this band (dupe)
- **Blue** – This station has been worked before on another band. You haven't worked him on this band yet. Get him.

13.4 Keyboard Assignments

- **Alt-Y** – will "yank" the first call from the Check window in the Entry window callsign field.

13.5 Mouse Assignments:

- **Left mouse key clicking on a callsign in the listbox**
 - ♦ **Click on call** – Enter this call into the callsign field on the Entry window replacing whatever was there.
 - ◊ When clicking on call with spaces, only the first token will be loaded as callsign
- **Right mouse key clicking**, a menu will appear
 - ♦ **Help** – Show the help file for this window.

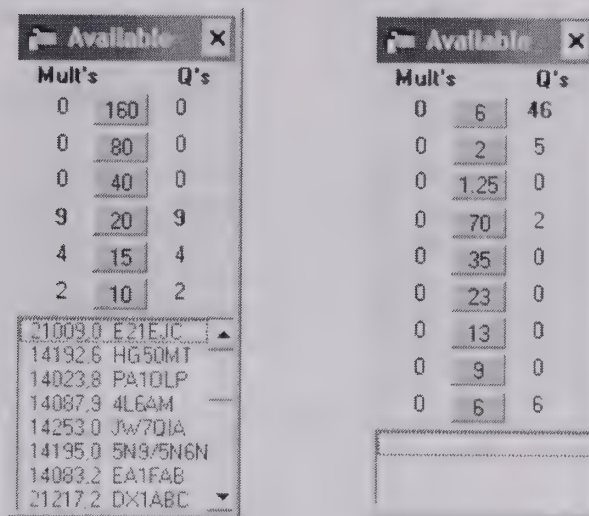
This window only has entries when there is a valid MASTER.DTA file in the program file directory.

MASTER.DTA files are available from a number of Internet sources. Use your favorite search engine to find one by searching on "MASTER.DTA". If you don't have a favorite search engine, try <http://www.google.com>.

Watch out! There are MASTER.DTA files in different formats, use the right one!!

14 Available Mults and Qs Window

The Available Mults and Qs window will be similar to this one.



This window consists of two parts, the top shows the band buttons, the bottom the multiplier list box.

14.1 The Band buttons

The top part of this window indicates the numbers of multipliers (left row) or non-dupe contacts (right row) available on that band. Red numbers indicate the band with the largest number of contacts (Qs) available. A HF version will appear for HF contests (left picture). The WARC bands do not appear in this window when logging contests. A special VHF version will appear when a VHF contest is selected (right picture)

The band buttons change color per band when a callsign is entered in the callsign field. The color gives information if this station is a new multiplier, a new contact or a dupe on this band. So we can see instantaneously if we need this station on another band.

The active band's button text is shown in **bold**.

14.1.1 Button Assignments:

- **Left click on band button** – Set the *left* radio or *VFO A* to the first spot on the band specified. Also the transmit and keyboard focus will be set.
- **Right click on band button** – Set the *right* radio or *VFO B* to the first spot on the band specified. Also the transmit and keyboard focus will be set.
 - ♦ NB Clicking on the band buttons does not follow the radio automatically. Select the correct radio/VFO by right or left clicking the band button.

14.1.2 Button background colors used:

- **Pink/Red** – A new multiplier on this band!
- **Turquoise** – A new contact on this band, not a multiplier.
- **Black** – Dupe, you already worked this one.
- **Green** – Zone is needed on this band (when zone is multiplier like CQWW).

14.2 Multiplier List box

The listbox shows the last multipliers received via Packet or Telnet. The most recent is placed on top of the list and the oldest will disappear from the bottom. A maximum of 20 multipliers will be shown.

14.3 Mouse Assignments:

- **Left mouse key clicking on a callsign in the listbox**
 - ◆ **Single Left click** Go to the frequency with the *active* VFO. The callsign on which you have clicked is placed on the frame of the callsign field in the Entry window.
 - ◆ **Single Shift-Left click** The *inactive* VFO changes to the frequency of the callsign.
 - ◆ **Double click** Go to the frequency with the *active* VFO. The callsign on which you have clicked is placed in the callsign field in the Entry window overwriting anything what was in there!.
- **Right mouse key clicking**, a menu will appear
 - ◆ **1 – Show Focus Radio/VFO** – Show only the last multipliers from the VFO or Radio which has focus.
 - ◆ **2 – Show non-Focus Radio/VFO** – Show only the last multipliers from the VFO or Radio which not has focus.
 - ◆ **3 – Show Both Radios/VFOs** – Show the last multipliers from both VFOs or Radios.
 - ◆ **4 – Show All Bands** – Show the last multipliers which came in on all bands.
 - ◆ **Help** – Show the help file for this window.

14.4 Other info

- Only calls from dupes are shown if the length of the callsign is greater than 2 characters.

15 Edit Contact Dialog

Your Edit Contact Dialog will be similar to this one.

Edit Contact

General Contact Information

Call: N1MM Timestamp: 10-10-2002 11:13:37

Rx Frequency: 28045.62 Tx Frequency: 28050.62

Mode: USB Contact Type: CQWWSSB

RST Sent: 59 RST Received: 59

Country Prefix: K Station Call: PA3CEF

Name: QTH: Comment:

Contest Information

Nr Received: 0 Nr Sent: 2 Points: 3 Power: Band: 28

Zone: 5 Section: Mult 1: ☐ WPX: AB1

Check: 0 Precedence: Mult 2: ☐ Radio #: 1

Exchange: Op: PA3CEF Grid Square:

Update Delete Exit ↑ ↓

This screen gives the possibility to update contacts after they have been logged.

The fields 'Country Prefix', 'Mult 1' and 'Mult 2' can't be updated because they are recalculated each time after each contact update.

The following modes are allowed to be entered in the 'Mode' field: CW, CW-R, LSB, USB, RTTY, RTTY-R, AM, FM, PSK31, PKT, PAC2, GTOR, FSK31, PSK63, PSK125, MT63, MFSK8, MFSK16, HFSK, MTTY, THRB, ASCI, HELL, Q15, PCW.

What country the program logs a contact as doesn't matter, except to the *claimed* score. The logged country does not appear in Cabrillo.

You are not penalized for an incorrect claimed score.

The main reason for tracking down these things is for better information about what countries are needed during the contest.

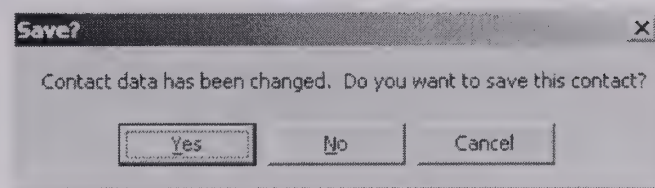


HINT. When the program doesn't allow you to log a contact the way you want it, log it as the program expects it and edit the contact in this screen.

Example: A KG4 station calls and gives a state as exchange, this KG4 is in the USA. The program expects this KG4 to be in Guantanamo Bay and doesn't allow entering a state but wants a number. Enter a number which the program expects and edit the contact in this screen. Of course you have to update CTY.DAT to add the KG4 station so this won't happen again. See the Tips and Tricks section how to do this.

When a contact has been updated and you are moving on to the next/previous qso with the *up* or

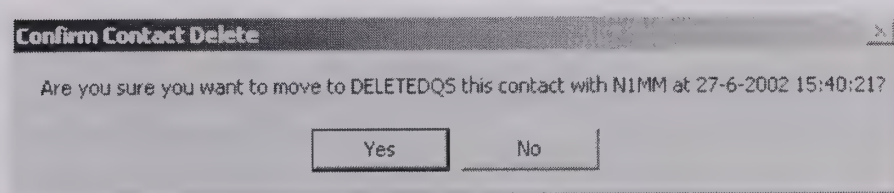
down arrow the following screen will be shown.



- **Yes** – Save the changes made and move on to the next or previous qso in the log.
- **No** – Don't save the changes made and move on to the next or previous qso in the log.
- **Cancel** – Go back to the qso which has been updated but not saved.

15.1 Button Assignments

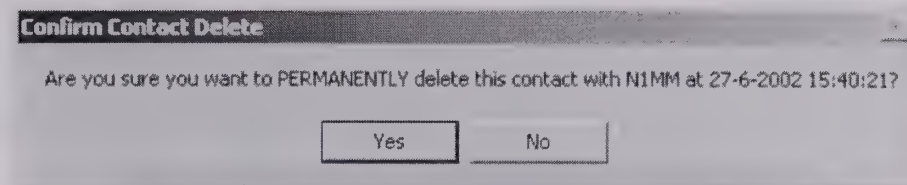
- **Update** – Update the log entry and exit the dialog returning to the last qso in the log.
- **Delete** – Removes a log entry from the current selected contest and exits the dialog returning to the last qso in the log.
 - ♦ When pressing the deleted button in a contest the following message will appear:
 - ◊ Yes, will move the qso to the DELETEDQS 'contest'
 - ◊ No, will cancel deleting the qso



- ♦ When using multi-user mode it is only possible to delete a qso made on the station which made the qso.
 - ◊ Message: "You may not delete contacts logged by another station while in Multi-User mode. Ask station #[radionumber] to delete it."
"Delete not performed!"
- **Help** – Show the help file for this window.
- **Exit** – Exit this dialog without updating the log entry.
- **Up Arrow** – Go to the next entry towards the beginning of the log. Updated log entries can be saved.
- **Down Arrow** – Go to the next entry towards the end of the log. Updated log entries can be saved.

15.2 How to permanently delete a contact?

- Delete one or more qso's
 - ♦ Select the DELETEDQS 'contest'
 - ◊ File, Select Contest, Select the DELETEDQS 'contest' in the 'Choose contest' dialog
 - ♦ Select a qso to delete
 - ◊ When pressing the deleted button the following message appears:
 - Yes, will delete the qso permanently from the DELETEDQS 'contest'
 - No, will cancel deleting the qso



- Delete all qso's
 - ◆ Select the DELETEDQS 'contest'
 - ◇ File, Select Contest, Select the DELETEDQS 'contest' in the 'Choose contest' dialog
 - ◆ Delete the "DELETEDQS" contest by pressing the 'Delete' key. It will reappear with no qso's.
 - ◇ A confirmation will be asked.

15.3 How to place a deleted qso back?

This is not easily done. A possibility is to export the 'DELETEDQS' contest. Then import it into the contest from which it was deleted (ADIF).

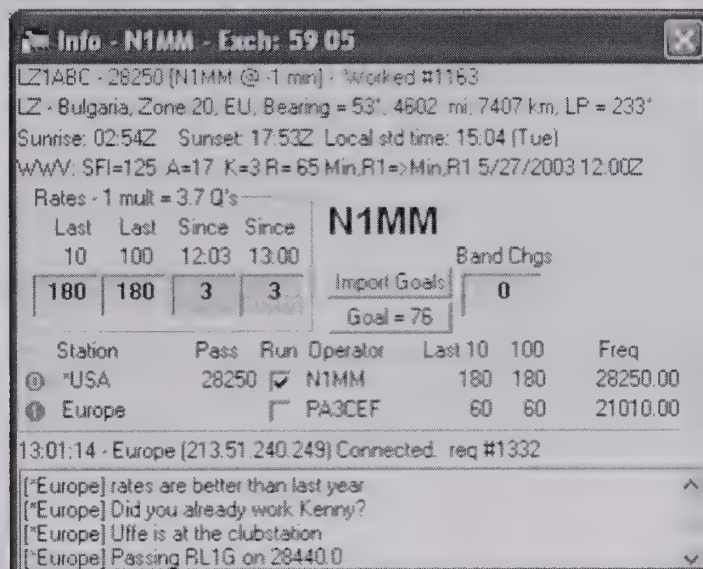
Before or after exporting you have to remove all the qso's which you don't want to have imported.

15.4 Why move and not delete?

A deleted contact in a contest is not permanently deleted but moved to the 'contest' DELETEDQS. This way a qso can be recovered when accidentally deleted. Permanently deleting the 'deleted' qso's can be done in the 'DELETEDQS' contest. The technical reason to put the qso's in another contest is that Access does not free space until you compact. It doesn't do any good to delete a qso, so why not just move it?

16 Info Window

Your Info window will be similar to this one.



The info window can be found in the EntryWindow dialog under Window, Info and normally it is a window which you want to have visible.

16.1 General

The following information currently appears in this window:

- Country, Zone, Continent, Bearing (short path), Distance miles & km, Bearing (long path)
 - ♦ From the station in the call window, or if nothing is there, the call in the call frame.
 - ♦ If there is nothing in either, it shows the last thing that was displayed there.
- Sunrise/sunset times, Local time
- Packet spot information
- Packet talk messages (appear in red)
- WWV statistics
- Rate information /goal information (colors) / band change information
- Callsign of the operator in lower right corner (bold). Set with Ctrl-O.
- Import and setting Goals button
- Multi user information (see below),
 - ♦ This info will only be shown when Multi-User Mode is selected.
- Messages
 - ♦ The first line shows computer name, ip address and port info

The next qso number will be shown on the title bar if it is a serial number contest. Example: Exch: 59 002

Local time is not shown for K, VE, UA and VK because of the multiple time zones in these countries.

16.2 Mouse Assignments

- **Right-click in the window** - Clicking on an item will select or deselect showing the selected information.



[The following text is extremely faint and illegible. It appears to be a multi-paragraph document, possibly a report or a letter, with several lines of text visible in the center of the page.]

[The following text is also extremely faint and illegible, appearing as a continuation of the document from the block above.]

- ◆ **Callframe spot** – show country info about the station in the callsign frame
- ◆ **CountryInfo** – show country info from the station in callsign field
- ◆ **Sunrise/Sunset** – show Sunrise/sunset times, Local time
- ◆ **Messages** – show packet talk messages
- ◆ **WWV Messages** – show WWV messages
- ◆ **Rates Section** – show rates section
- ◆ **Multi-User Section** – show multi-user section
- ◆ **Help** – Show the help file for this window

When the Multi-User Mode is selected, clicking **on a red or green icon** in that part of the window will give an extra menu. See Multi-User below.

16.3 Rate information

The rate information is shown on the bottom part of the info window. Dupe qso's are included in the count.

Shown is the following information.

- **Top of rates frame** – qso's per multiplier info
 - **Last 10** – rate last 10 minutes (qso's per hour)
 - **Last 100** – rate last 100 minutes (qso's per hour)
 - **Since hh:mm** – rate one hour back in GMT (qso's per hour)
 - **Since hh:00** – rate since the start of the current hour in GMT (qso's per hour)
 - **Band Chgs** – number of band changes since beginning of the contest for multi-single operators.
 - ◆ Resets to 0 at top of hour
 - ◆ Counts band changes for each computer only if Multi-Two
 - ◆ Band changes are not counted if the worked station on the other band is a multiplier
 - **10 min band timer** – Count down timer from 10 minutes to 0 which starts after the first logged qso after a band change.

16.3.1 Background colors rate information

The background colors change depending on the goal you have set for this contest.

- **Red** – < 50% OF GOAL
- **Yellow** – < 51-99% OF GOAL
- **Green** – 100+% of goal

16.3.2 Buttons

- **Import Goals** – use this button to import hourly rates from the current contest to be used as goal. If the contest you want as a goal is not the current contest, open it, then set the goal.
- **Goal =** – manually edit the hourly rate goals to be used in this contest. Hours should be from 0-23. If an hour is missing the next lower hour will be used.

16.4 Setting a goal for the contest

Most people want to make each year more qso's than the year before. So for most of us that is our goal!

It's always nice to know what number of qso's you had last year so you can see where your weak spots are. If this information is not available or you think these numbers are wrong (to low?) set your own! You can set the number of qso's you want to make on an hourly basis and the program will show them on the 'Goal = ' button. On the example screen above the goal for the current hour = 25 qso's

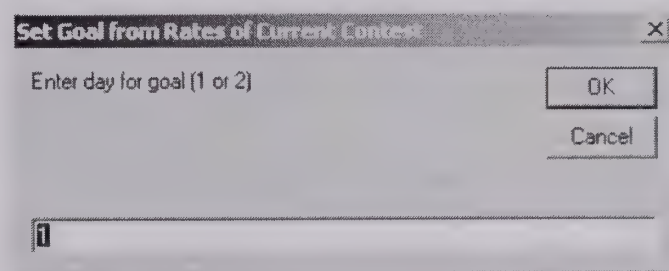
If you have the contest from last year available you can import the number of qso's and adjust afterwards if necessary.

The only difference importing QSOs from a previous contest is what database you have loaded in N1MM logger during setup of the goal numbers. If you have the previous contest (from last year) loaded the program will calculate the qso's per hour and display them. These numbers can be updated to set a new (higher) goal.

16.4.1 Setting the QSO numbers

You can set the number of qso's per hour for day 1 (Saturday) and for day 2 (Sunday).

- Import from a previous contest?
 - ◆ Yes
 - ◇ Load or have loaded the previous contest (mostly from last year) in the program.
 - ◇ Use 'File / Open Database' and select in the database the contest you want.
 - ◇ Another type of contest is allowed to get some figures and hours imported.
 - ◆ No
 - ◇ Have an empty contest loaded or make a new contest with 'File, Choose contest' and select ' Start a new log for a contest'.
- Select button 'Import Goals' on the Info window
Select the day to set (1 = first day, 2 = second day)



- Select button 'Goal = ' on the Info window
A screen will appear where you can enter the qso's to make per hour.
If you not have imported a contest the dialog will be empty otherwise it will be pre filled.
 - ◆ 24 hour contests start at day 1, hour 12 and end at day 2, hour 11
N.B. Assumed are contests like the PACC etc. which start at 12 GMT on Saturday
 - ◆ 48 hour contests start at day 1, hour 0 and end at day 2, hour 23
N.B. Assumed are contests like the CQWW, ARRL DX etc which start at 0 GMT on Saturday

Hour	Goal (Q's)
12	100
13	97
14	95
15	98
16	123
17	89
18	92
19	102
20	86
21	52

Ok

Note: The goal is set per database and not per contest in the database. So it is not possible to set different goals for more contests in one database. Again a good reason to use for each (major) contest it's own database.

16.5 Multi-User information

16.5.1 General

In the bottom part of the Info window all information needed during contesting is displayed. See the picture below. See the Info window for more information.

Station	Pass	Run	Operator	Last 10	100	Freq
USA	28235	☒	N1MM	0	0	28235.0
Europe		☐	PA3CEF	12	13	14263.0

12:20:34 - Connected to USA (64.252.136.17)

- **Green or Red station icon**
 - ♦ **Green** means connected
 - ♦ **Red** means not connected
 - ♦ **Light Red** means that the program has not been able to contact the other machine for a while.
 - ◊ The program will try to solve this problem, if it returns to green, then everything is ok.
 - ◊ At startup it is not an issue. If during a contest, with lots of RF, this might mean you have RF in your network cables.
 - ♦ Right clicking on these icons brings up a menu
- **Station**
 - ♦ name from the station as entered under 'Config / Edit Station Computer names'
- **Pass frequency**
 - ♦ Frequency where the station likes to receive it's passed stations
- **Run**
 - ♦ Selected means running
 - ♦ Not selected means he is Searching & Pouncing
- **Operator**
 - ♦ Who is operating the station
 - ♦ This call will change to **red** while transmitting
- **last 10**

- ◆ Rate information from the station over last 10 qso's
- **last 100**
 - ◆ Rate information from the station over last 100 qso's
- **Frequency**
 - ◆ Operating frequency

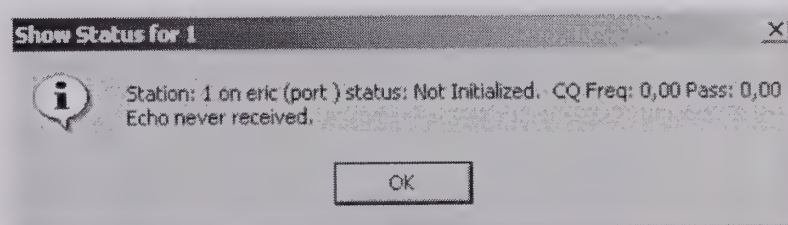
16.5.2 Mouse Assignments

Send Message
Target for Call Stacking

Show Status
Close Connection

Prevent Automatic Reconnect Attempts
Call for help

- **Right-click in the station icon** – shows the menu window above.
- **Send Message** – Send a message to this station. The message will be shown in the Info window from the selected station and appears in red.
- **Target for Call stacking** – Stacked calls (with Shift-Enter) will be put on the 'stack' from this station. See the Entry Window for more information about call stacking.
- **Pass current/last QSO** – Pass the current qso in the Entry window or the last qso when the Entry window is empty to this station.
- **Show Status** – Show status of all connections. See image below (no connection set up here)



- **Close Connection** – close the network connection from this station
- **Open Connection** – open the network connection from this station (only selectable when dot is red)
- **Prevent Automatic Reconnect Attempts** – prevent automatic reconnect attempts every 30 seconds by the program
- **Call for help** – On the selected station the following message will be shown: "Station x needs assistance". This way an operator can call for assistance without leaving the chair by sending a message to another (operating) position. The file "Assist.wav" from the program directory will be played on the target station.

17 Score Summary Dialog

Score Summary				
Band	Q	M1	M2	Total
7	18	7	11	504
14	604	23	50	116800
21	576	28	31	97586
28	440	21	24	58185
Total	1638	79	116	892125
M1 = Zone				
M2 = DXCC				

Example screen CQWW SSB dialog

Score Summary			
Band	Q	M1	Total
3,5	310	42	12978
7	187	42	7854
14	291	54	15714
21	353	74	26122
28	284	59	16756
Total	1425	271	385304
M1 = Mult			

Example screen PACC dialog

Score Summary			
Band	Q	M1	Total
144	703	0	233723
Total	703	0	233723
M1 = No mults this contest			

Example screen VHFREG1 dialog

The Score Summary dialog displays the score for the current contest with the points that have been achieved by band (as a single band entry). Totals for points, mults and score are also shown. The dialog can be found under the View menu item. The score is updated when the contact is changed.

17.1 Mouse Assignments:

- **Right mouse key clicking**, a menu will appear
 - ◆ **Help** – Show the help file for this window.



Note: If contacts are changed or deleted in Log Window then the displayed statistics may be incorrect. You may use Tools/Rescore to correct (rescore) the totals.



Note2: The number of contacts shown on screen and printed on the summary sheet are including dupe contacts.

18 Multipliers by Band Dialog

Your Mults by Band Dialog window will be similar to this one.

Multipliers - EU - 54 of 432

AF	AS	EU	NA	OC	SA	All
1A	F	JW	PA	UA2		
3A	G	JW/b	R1FJ	UR		
4U1I	GD	JX	R1MV	YL		
4U1V	GI	LA	S5	YO		
9A	GJ	LX	SM	YU		
9H	GM	LY	SP	Z3		
C3	GM/s	LZ	SV	ZA		
CT	GU	OE	SV/a	ZB		
CU	GW	OH	SV5			
DL	HA	OH0	SV9			
EA	HB	OJ0	T7			
EA6	HB0	OK	T9			
EI	HV	OM	TA1			
ER	I	ON	TF			
ES	IS	OY	TK			
EU	IT9	OZ	UA			

☒ Country ☐ ZN ☐ Sect ☐ Other Auto Auto Reset

Multipliers - CQ Zones - 79 of 240

1	9	17	25	33
2	10	18	26	34
3	11	19	27	35
4	12	20	28	36
5	13	21	29	37
6	14	22	30	38
7	15	23	31	39
8	16	24	32	40

☐ Country ☒ ZN ☐ Sect ☐ Other Auto Auto Reset

This dialog gives a band by band breakdown of worked and wanted countries/zones/sections (contest dependant) per continent. Each continent has it's own Tab, the last Tab gives a total for all bands. In the titlebar the number of worked and the total of possible countries/zones/sections is shown. The Multipliers by Band dialog can be found under the View menu item.

The blocks shown can be bands or modes depending on the contest. The number of shown blocks depends on the selected contest and selected mode (CW, SSB, Mixed).

If unknown sections are logged they will be shown under the callarea "UNK".

- The number of blocks shown **per band** depend on the 'Mode category' in the "Choose contest" dialog
 - ♦ **CW, SSB, RTTY** – will give one block per band
 - ♦ **MIXED** – will give two blocks per band
 - ◊ white = CW, gray = SSB
- The bands shown depend on the selected contest

- ◆ Each contest has it's own default which mosly will be the 6 HF bands.
- ◆ The setting of the **band filter box** in the Multiplier by Band dialog.
- A combination of the Band filter box and the Mode filter box gives many possibilites.
 - ◆ Mode filter **Auto** means that it uses the 'Mode category' in the "Choose contest" dialog
- Examples:
 - ◆ Bandfilter: **Auto** Mode filter: **Auto**
 - ◇ default per contest, mostly the 6 major HF bands (160 80 40 20 15 10)
 - used in all major contests like CQWW, ARRL DX etc
 - Single mode contests (CW or SSB)
 - ◇ 2 blocks – possible CW and SSB (mixed mode contests)
 - used in contests like ARRL 10 meter etc.
 - white = CW, gray = SSB
 - Mixed is selected
 - ◆ Bandfilter: **HF+WARC** Mode filter: **SSB**
 - ◇ 9 blocks – all 9 HF bands (160 80 40 30 20 17 15 12 10)
 - ◇ used in contests like DX etc.
 - ◆ Bandfilter: **HF+WARC** Mode filter: **Mixed**
 - ◇ 18 blocks – 2 blocks per band fo all 9 HF bands (160 80 40 30 20 17 15 12 10)
 - ◇ used in contests like DX etc.
- Grid square overview
 - ◆ Shown when a VHF or up contest is selected
 - ◆ Clicking on a grid will center the window on that grid
 - ◆ The own station gridsquare will be shown in white/dark green

18.1 Keyboard Assignments

- **Ctrl-J** – Toggle through the Countries, Zones, Sections & Other windows
 - ◆ When the Multiplier window is not open, it will be opened.
- **Ctrl-Shift-J** – Opens or minimizes the Multiplier-by-band window
- **Ctrl-Alt-J** – Toggles through continents.

18.2 Mouse Assignments

- **Right-click in the window** – shows the window above.
 - ◆ **Show Zones/Countries** :
 - ◇ Countries selected: Shows the zone for a selected country.
 - ◇ Zones selected: Shows the countries in the selected zone.
 - ◆ **Show Calls Worked** – Shows all calls worked in this country or zone.
 - ◆ **Set Grid center** – Shows a dialog in which you can enter the desired grid square (4 digits long) on which to center the grid square view.
 - ◆ **Help** – Show the help file for this window.

18.3 Radio Button Assignments

- **Country** – Show the countries worked in **green** for the band chosen.
- **ZN** – Show the zones worked in **green** for the band chosen.
- **Sect** – Show the sections or states worked in **green** for the band chosen.
- **Other** – Show the other possible multipliers worked in **green** for the band chosen.
 - ◆ in VHF contests a Grid square overview will be shown.

- **Auto** – Band filter
 - ◆ **Auto** – Shows the bands for the selected contest (mostly the major 6 HF bands)
 - ◆ **HF** – shows all 6 major HF bands
 - ◆ **VHF** – shows all VHF and up bands (50 MHz and up)
 - ◆ **HF + WARC** – shows all HF bands
 - ◆ **All seperate bands** – 1.8, 3.5, 7 up to 241 GHz
- **Auto** – Mode filter
 - ◆ **Auto** – Shows the mode as selected for the choosen contest (CW, SSB, Mixed, Digi)
 - ◇ one block per band when a single mode is selected
 - ◇ two blocks per band when Mixed is chosen as 'Mode category' in the "Choose contest" dialog
 - ◆ **CW** – shows only CW contacts (one block per band)
 - ◆ **SSB** – shows only SSB contacts (one block per band)
 - ◆ **Dig** – shows only Digital contacts (one block per band)
 - ◆ **Rev** –when not in a single mode contest this button selects the other mode (SSB versus CW) (one block per band)
- **Reset** – Resets the two filters to **Auto**

18.4 Colors used:

- **White** – You need this one, work 'em.
- **Green** – Worked country, zone, section or grid square.

19 Station Dialog

Your Station Dialog window will be similar to this one.

Edit Station Information

Tip: You need to fill out this form or the program will not perform properly... Also, make sure your computer date and time are set to the LOCAL date and time zone for your location.

Call:

Name:

Address:

Address:

City: State: Zip:

Country:

Grid Square: ITU Zone:

License Class:

Latitude: Longitude: Enter S, E as negative numbers

Packet Node Call:

ARRL Section: e.g. STX, SDG. Enter "DX" for non-US stations

Club:

email address:

SMTP Server addr:

The information in this dialog is self-explanatory. Be aware that in order for the logger to calculate accurate beam headings, you will need to put your longitude and latitude into the appropriate fields. Also make sure that you enter your call as the station call sign. Many of the fields in this dialog are used in creating contest entries, so do update them with their correct values.

The Latitude and Longitude are used to calculate the distance and bearing to another station/country.

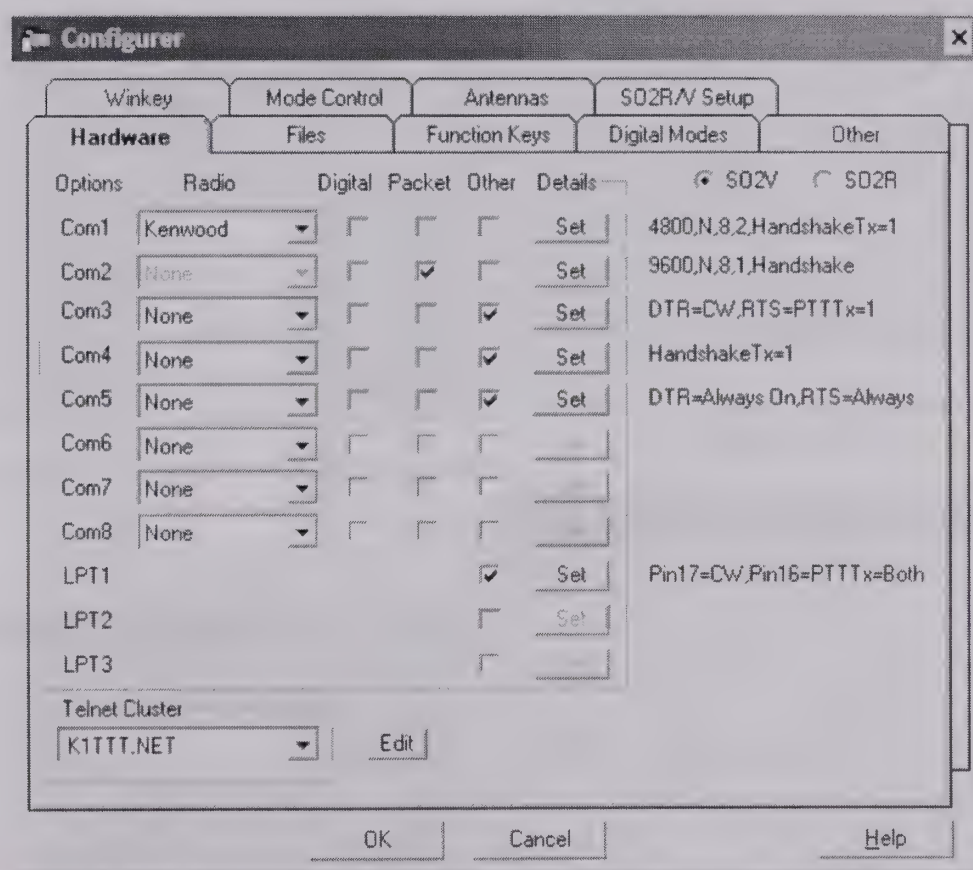
The e-mail address and SMTP server Address are being used for sending a bug report via e-mail. Your e-mail address and SMTP server address can be found in your e-mail program.

Help – Show the help file for this window.

20 Configurer Dialog

The Configurer Dialog or Configurer as we call it often has many Tabs with program settings influencing the behavior of the program. Be careful in setting up all the items on the different Tabs. All settings are 'remembered' by the program in two text files named "Default Settings.txt" and "N1MM Logger.ini". Keeping different versions of these files is a fast way to change between program behavior. Settings saved in the currently open database have to be exported and imported for backup and quick changes (like the function key information, telnet clusters, country information etc.)

20.1 Hardware tab



The Hardware tab is used to set up your radios, packet interfaces, telnet connections and CW port. Set the values appropriate to your station. If you do not have one of the items listed, make sure the port selection is 'None'. Initial CW speed can be set per radio on this tab as well.

20.1.1 Hardware setup

The program supports 8 serial ports (Com1 – Com8) and 3 parallel ports (LPT1 – LPT3). Select for each port what is connected and set the correct details.

Radio – The radio used and controlled by the program. Select 'None' if no radio is connected.

Digital – This port is used for digital communication (RTTY/PSK)

Packet – This port is used for packet radio (TNC) if selected. Do not select if no TNC is connected.

Other – This selection can be done in combination with a Radio, Digital interface or Packet.

Details – A window is shown with a set of controls depending on the selections made above (Radio, Digital, Packet, Other).

To the right of the details column are the details settings shown as set (via the Set button).

20.2 Mouse Assignments:

- **Right mouse key clicking**, a menu will appear
 - ♦ **Help** – Show the help file for this window.

20.2.0.1 Details

Details shown when **Radio** (non Icom) selected

Details shown when **only Digital** or **only Other** selected (serial port)

Details shown when **CW** and **PTT** are selected (serial port)

Details shown when **Other** selected (pin 17/16 fixed) for a parallel port

There are many more combinations possible than the pictures above are showing.

- **Speed** – The speed of the serial port to radio/if-interface link (check the manual of your radio/TNC)
- **Parity** – The parity used (check the manual of your radio/TNC)

- **Data Bits** – The number of data bits used (check the manual of your radio/TNC)
- **Stop Bits** – The number of stop bits used. The default is 2 stop bits which is generally true for non-Icom radios. (Check the manual of your radio/TNC)
- **DTR** – The following selections can be made (pin 4 on DB9 connector):
 - ♦ **PTT** – used for keying the radio
 - ♦ **CW** – used for sending CW to the radio
 - ♦ **Always on** – DTR is always 'high'
 - ♦ **Always off** – DTR is always 'low'
 - ♦ **Handshake** – used for handshaking signals
- **RTS** – The following selections can be made (pin 7 on db9 connector):
 - ♦ **PTT** – used for keying the radio
 - ♦ **Always on** – DTR is always 'high'
 - ♦ **Always off** – DTR is always 'low'
 - ♦ **Handshake** – used for handshaking signals
- **Icom Addr (hex)** – The address for the radio used, enter without the H i.e. 26 not 26H. (This field is only shown when Icom Radio Type is)
- **CW Speed** – The initial CW speed. Default: 30 wpm (only shown when CW selected)
- **Radio Nr** – The radio where the information is valid for.
 - ♦ In **SO2V** (one radio, two VFO's) select:
 - ♦ **1** – for both VFO's attached to the radio.
 - ♦ **2** – for VFO A attached and VFO B in manual mode
 - ♦ **Both** – will put both VFO's in manual
 - ♦ Don't forget to change the **LPT keying** from Radio 1 (default) to BOTH. Otherwise you will not get any keying on VFO B.
 - ♦ In **SO2R** select the radio (1 or 2) connected to this port.
- **PTT Delay (mSec)** – The time between keying the radio and starting to send CW, a wav file or transmit a digital mode (only shown when PTT selected).
- **Radio PTT via command** – Select when the PTT for the radio should be send as a command to the radio. Check if you want the program to turn on your radio prior to starting to send CW or a .Wav file. When checked, the radio will be set to transmit 40 milliseconds before beginning the message, this is configurable using 'PTT delay (mSec)'.
- **WinKey** – Select when using a WinKey keyer. No Speed, Parity, Data bits or Stop bits settings have to be set, they are fixed and set by the program. Settings for the keyer can be done on the Winkey tab in the Configurer.
- **CW/PTT Port Addr** – specify port address for serial and parallel ports.
 - ♦ When both RTS and DTR are set to PTT they will both be 'keyed' for PTT with the set 'PTT delay'.
 - ♦ Packet uses as handshaking RTS + XON/XOFF.
 - ♦ When using a home-brew self-powered interface set the handshaking to always on (DTR), always on (RTS)
 - ♦ Note: The address here should be the same as used for this port in Windows!



Note. When setting up CW and your radio has two VFO's, set them up for Radio 1. The radio 1 CW port is for the first radio. If you want also CW on the second radio you also have to setup the CW-port for radio 2.

20.2.0.2 Telnet cluster

- **Telnet Cluster** – The Telnet cluster to connect in the Telnet Window
- **Edit** – Edit Telnet selection list

20.2.1 Other information

It is possible to have the PTT on the same serial port as the radio.

If the type of CW port chosen is LPT1, LPT2 or LPT3, additional information will be present on the parallel port. See [Radio Interfacing](#) for more detailed info.

Help – Show the help file for this window.

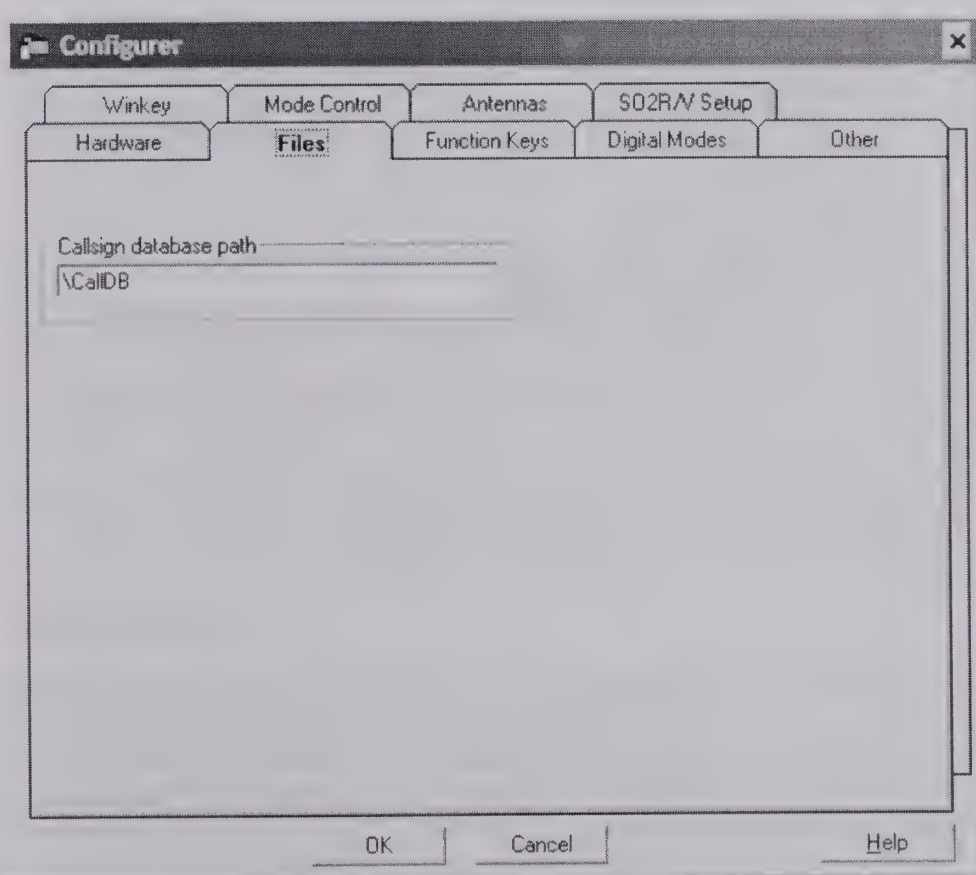
20.2.2 Windows NT/2000/XP (32 bit OS)

Under 32 bits Windows operating systems using the parallel and the serial ports require a special dll called: DLPortIO.dll. A link to the file dlportio.zip containing the required dll can be found in the [installation](#) section.

To install, follow the instructions in section 3.2 of the file DLPortIO.pdf. It is called: *Automatically Installing the DriverLINX driver*. The actual code installed and operating is tiny compared to the size of the zip file.

20.3 Files tab

The files Tab is used to set the path to the Buckmaster callsign database if present.



20.3.1 Field descriptions

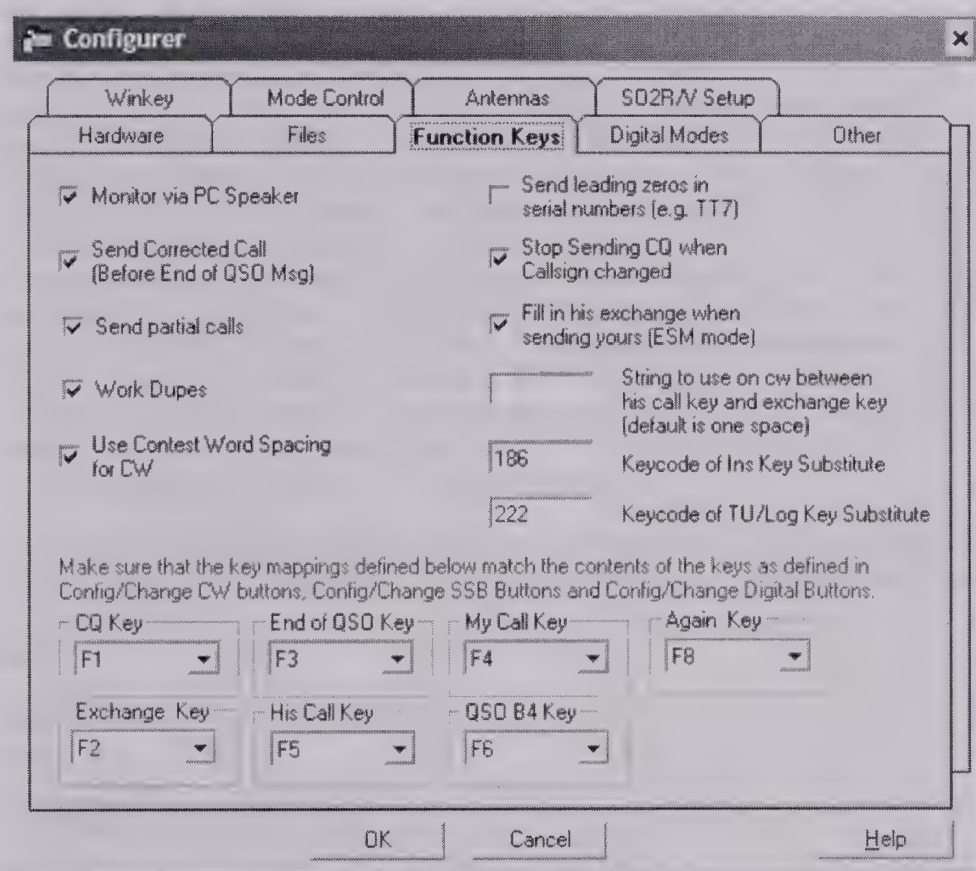
- **Callsign database path** – Used to identify the directory of the Buckmaster callsign database to be used by the logging program. Be sure to include a trailing '\' in the directory

name. Make sure that the path to the CD is set correctly. You can set the path to the Buckmaster database here and type in the full path to the Buckmaster database on your CD. For example: If your CD-ROM is mapped to the 'E' drive, the full path is: E:\HAM0\ Don't forget the back-slash '\' at the end of the path!

Also, make sure to copy the HAMCAL32.DLL from the CD to the program directory where N1MM Logger is installed. On 'older' CDs, this file is located in the \API\WINDOWS directory. It may be located elsewhere on the newer CDs.

20.4 Function Keys tab

Function keys for each message are set here.



20.4.1 Field descriptions

- **Monitor via PC speaker** – The CW sent by the program plays via the PC speaker (only for Windows 95, 98, ME, disabled for NT/2000/XP machines)
- **Send Corrected Call (Before End of QSO Msg)** – Send Corrected Call (Before End of QSO Message) – If the callsign is corrected after answering a call, then the corrected call will be sent before the End of QSO message (as configured by the End of QSO Key). E.g. 'PA1M TU DE N1MM' instead of 'TU DE N1MM'.
- **Send Partial Calls** – Only CW. When sending a partial corrected call only the corrected part will be send (prefix or suffix). If not checked the whole call will be sent.
- **Work Dups** – Work dups and don't send QSO B4 Key. Normally you do want to work dups. See the chapter ['Off topic'](#)
- **Use Contest Word Spacing for CW** – The box is defaulted ON for "Use Contest Spacing for CW". This setting changes the spacing between words in your CW, where "N1MM 599 5"

is 3 words. Default is 6 bits for "contest spacing". When box is not checked, 7 bits between words is used, which is "normal spacing".

- **Send leading zeros in serial numbers (e.g. TT7)** – CW: Insert *leading* "TT" to 1 digit serial numbers and *leading* "T" to 2 digit serial numbers in CW to make into 3 digit number. So 007 will become TT7 and 030 will become T30. Shorts like 1TT or 1T9 are not supported. RTTY: In RTTY zeros will be added, so 1 will become 001.
- **Stop Sending CQ when Callsign changed** – Typing a character in the callsign field will stop a (repeated) CQ.
- **Fill in his exchange when sending yours (ESM mode)** – When you are in Enter Sends Message mode this is option keeps the cursor in the callsign textbox until you press space while sending your exchange.
- **String to use on CW between his call key and exchange key (default is one space)** – Just as it says. Example ' ur '
- **Keycode of Ins Key Substitute** – Enter the number for the Ins Key substitute as mapped below in this configurer dialog. Defaults to 186, the ; character. The program can automatically enter the keycode in this field . Place the cursor in the keycode field and press the key you want to substitute, it will put the correct keycode in. 186 is an extended key code. Not all keyboards map keys the same way. Note that you can't use a Shift, Ctrl, Alt etc. keys. I would not advise using a key like num + that is already in use. It may or may not work. As an example, the numeric +, does NOT work.
- **Keycode of TU/Log Key Substitute** – Enter the number for the TU/Log Key substitute as mapped below in this configurer dialog. Defaults to 222, the ' character. The program can automatically enter the keycode in this field . Place the cursor in the keycode field and press the key you want to substitute, it will put the correct keycode in. 222 is an extended key code. Not all keyboards map keys the same way. Note that you can't use a Shift, Ctrl, Alt etc. keys. I would not advise using a key like num + that is already in use. It may or may not work. As an example, the numeric +, does NOT work.

Select which function keys to send messages. Each type of message has a combo box for you to set the appropriate function key. If the program is sending the wrong message check here first.

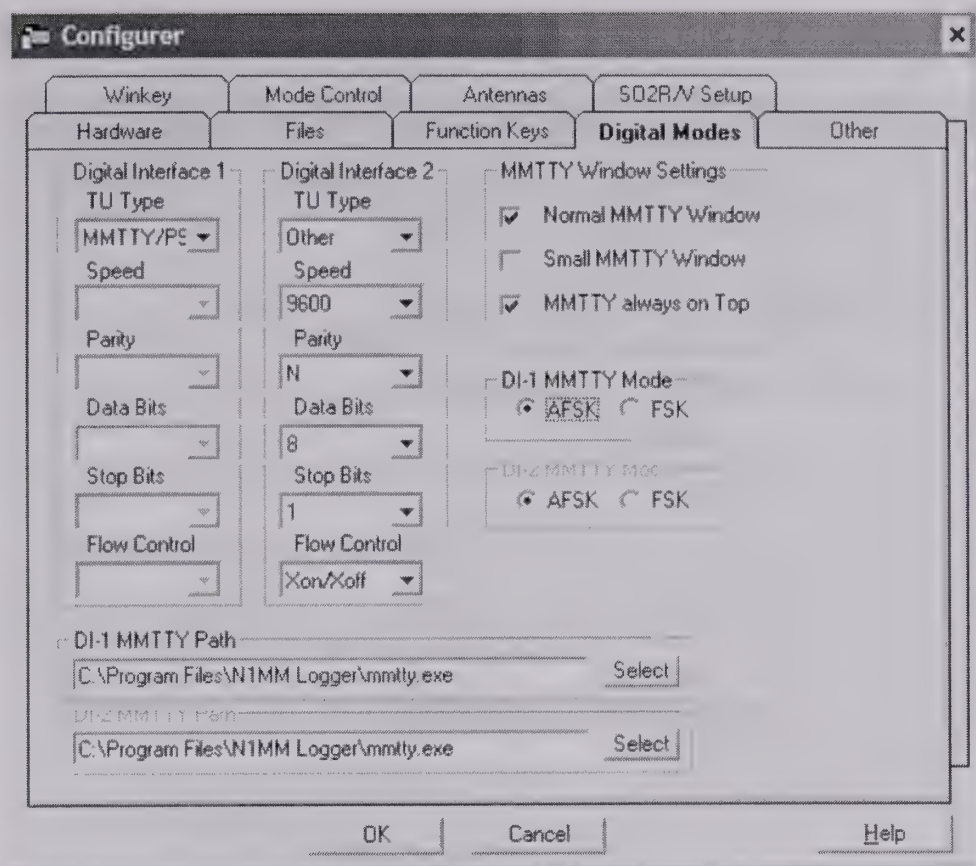
For the following messages a function key can be selected

- CQ Key
- Exchange Key
- End of QSO Key
- His Call Key
- My Call Key
- QSO B4 Key – automatically sent when in Enter Sends Message mode and working a dupe.
- Again Key

A function keys doesn't have to be unique for a selected message. There is little reason to do so although if you want it can be done

20.5 Digital Modes tab

[The text in this block is extremely faint and illegible, appearing as a series of horizontal lines across the page.]

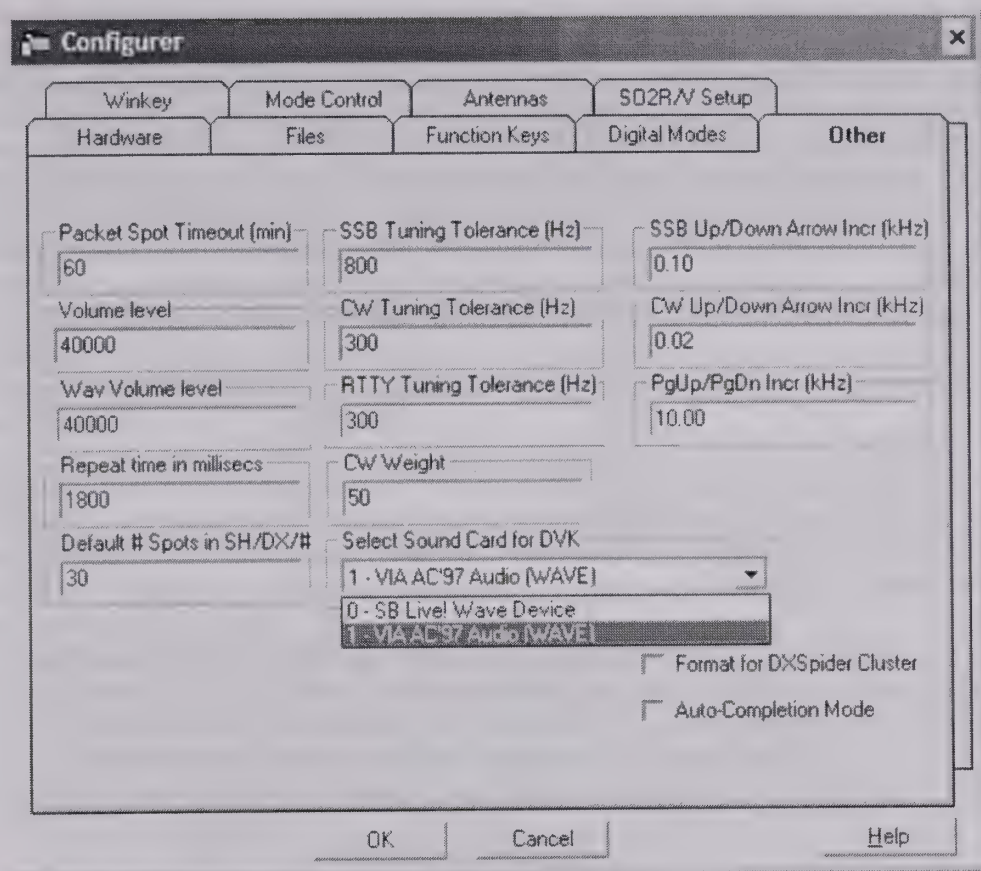


The Digital modes tab is used to set up the interfacing to external Controllers via the Serial ports or MMTTY which uses the sound card

20.5.1 Field descriptions

- **Digital Interface 1 / 2**
 - ◆ **TU type**
 - ◇ Other like the KAM, PK232, PTC and any other external TNC!
 - ◇ MMTTY soundcard software.
 - ◆ **Port, Speed, Parity, Data Bits, Stop Bits, Flow Control** – Have to be set when 'Other' has been chosen.
- **MMTTY Window Settings**
 - ◆ **Normal MMTTY Window** – The normal size MMTTY window is shown
 - ◆ **Small MMTTY Window** – A small MMTTY window is shown
 - ◆ **MMTTY always on Top** – MMTTY is always over all other N1MM logger windows
- **DI-1 MMTTY Mode | DI-2 MMTTY mode**
 - ◆ When using MMTTY, select if AFSK or FSK is being used.
 - ◆ If FSK is selected the serial port will not get passed to MMTTY on startup. The serial port has to be set in MMTTY Setup!
- **DI-1 MMTTY Path | DI-2 MMTTY Path**
 - ◆ The path to the MMTTY engine goes here including the file name from the program.
 - ◆ It's not necessary that MMTTY is in the same directory as N1MM logger
 - ◆ Via the 'Select' buttons the path and file name can be selected
 - ◆ DI-1 is for the first Digital Interface, DI-2 for the second Digital Interface.
 - ◆ It is possible to select two instances of MMTTY.

20.6 Other tab



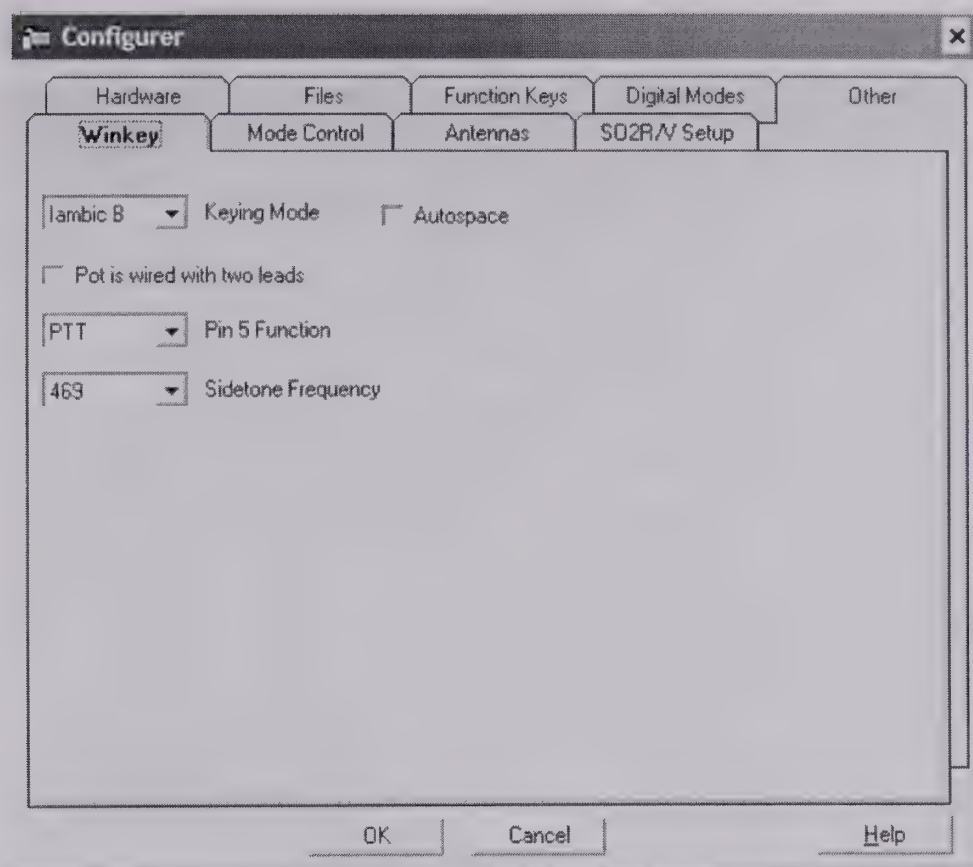
The Other tab is used to set up default values and select special modes and functions.

20.6.1 Field descriptions

- **Packet Spot Time (min)** – Indicates how long (in minutes) spots are kept in the bandmaps. The default is 60 minutes, any integer may be specified.
- **Volume level** – Adjust the *Main* volume level. This is a number between 0 and 65536 that indicates the relative volume level that the program should set the sound card speaker to. This number can be determined by trial and error. The default for volume is 40000. This number will affect the loudness of the digital voice keying functionality of the program. Do not overdrive your transmitter! To disable put -1 here and the volume level is not set by the program. The purpose of these is to allow you to get your settings EXACT, and be able to repeat them every contest.
- **Wav Volume level** – Adjust the *Wav* volume level. See 'Volume level' above for details.
- **Repeat time in millisecs** – Specify the repeat interval (CW or SoundBlaster) in the Entry window (Auto-CQ). The default value is 1.8 seconds. Enter a value in seconds or milliseconds. The maximum value is 32767. This is the same as Ctrl-R or 'Config/ Set CQ repeat time' in the Entry Window.
- **Default # Spots in SH/DX/#** – The number of returned spots by the SH/DX command in the bandmap window. The default value is 30 spots. The number of returned spots for the SH/DX command in the Packet / Telnet window is not affected by this value and has to be changed in the Entry window under Config menu / Edit Packet/Telnet Buttons.

- **SSB Tuning Tolerance (Hz)** – Clicking on or next to a station in the bandmap window will put the call on the callsign frame (if the callsign field is empty) of the Entry window. This value gives the maximum frequency distance to the call on the bandmap when it will be put on the callsign frame. The value has to be between 0 and 1000. The default value is 300.
- **CW Tuning Tolerance (Hz)** – Clicking on or next to a station in the bandmap window will put the call in the callsign frame (if the callsign field is empty) of the Entry window. This value gives the maximum frequency distance to the call on the bandmap when it will be put on the callsign frame. The value has to be between 0 and 1000. The default value is 300.
- **RTTY Tuning Tolerance (Hz)** – Clicking on or next to a station in the bandmap window will put the call on the callsign frame (if the callsign field is empty) of the Entry window. This value gives the maximum frequency distance to the call on the bandmap when it will be put on the callsign frame. The value has to be between 0 and 1000. The default value is 300.
- **CW Weight** – Adjusts the CW weight. The default value is 50.
- **Select Sound Card for DVK** – Select the soundcard which will give the sound for the Wav files in SSB.
- **SSB Up/Down Arrow Incr (kHz)** – This value gives the frequency jump amount in SSB by the up/down arrow keys. NB. Never make it smaller than the smallest step your radio can make in SSB. Older Icom rigs are known to have a smallest step of 100 Hz which is quite big. When the step is made smaller than the minimum step size the Up/Down Arrows don't seem to work...
- **CW Up/Down Arrow Incr (kHz)** – This value gives the frequency jump amount in CW by the up/down arrow keys. NB. Never make it smaller than the smallest step your radio can make in SSB. Most rigs have a smallest step in the order of 10 Hz. When the step is made smaller than the minimum step size the Up/Down Arrows don't seem to work...
- **PgUp/PgDn Incr (kHz)** – This value gives the frequency jump amount Page Up/Page Down keys.
- **Format for DXSpider Cluster** – This will send the right SH/DX message for DXSpider clusters from the button in the top of the bandmaps (Example: sh/dx/30 on 20). Also SH/QRZ will be sent instead of SH/BUCK. Only select this when connecting a DXSpider cluster. Connect the cluster and send: SH/VER A DX-spider cluster will say something like: DX Spider Cluster. The 'normal' setting is not selecting this option.
- **Auto-Completion Mode** – Auto completion of callsign's. If you type part of a call, and that call is uniquely identified in the check window or in your log for the contest, it will finish typing the call for you. The part that it types will be selected, so that if you type another character, it will replace the letters that the program put in there.

20.7 Winkey tab



The Winkey tab is used to set up the supported K1EL Winkey keyer.

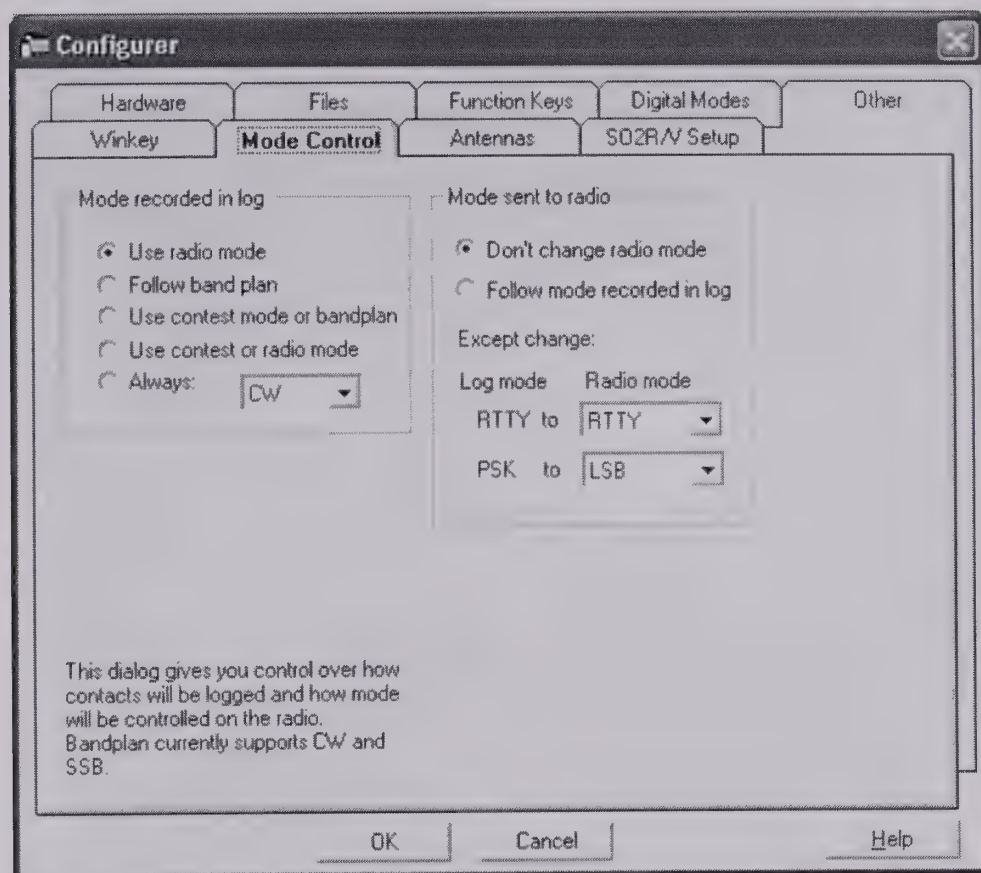
Winkey is an external keyer designed by K1EL and G3WGV. The goal for the keyer is to interface with various Windows programs and to avoid CW timing problems caused by multitasking. Winkey is fed ASCII characters from N1MM Logger (via COM port only), and converts the ASCII to timed CW. For more info see the links page and the Supported Hardware page

This keyer eliminates any hesitation that occurs from scheduling multiple tasks under Windows. It is also a really sweet standalone keyer. To enable the key, choose a com port for it from the Hardware tab. Check the Winkey option after pressing Set for that com port. Winkey options can be set on the Winkey tab of the Configurer.

20.7.1 Field descriptions

- **Keying Mode** – Select the keying mode. Choices are: Iambic A, Iambic A, Ultimatic and Semi-Automatic. The default is Iambic-B.
- **Pot is wired with two leads** – Select when the potentiometer on the board is wired only with two instead of three wires.
- **Pin 5 Function** – Select the function of pin 5. The choices are: PTT, Sidetone, 2nd CW. The default is PTT.
- **Sidetone Frequency** – Select the sidetone frequency. The default sidetone frequency is 469 Hz.
- **Autospace** – Select when the autospace feature should be used.

20.8 Mode Control tab



This dialog gives you control over how contacts will be logged and how mode will be controlled on the radio. Bandplan currently supports CW and SSB.

20.8.1 Field descriptions

- **Mode recorded in log** – Set how to determine the mode which should be entered in the log.
 - ◆ **Use radio mode** – use the mode received from the radio
 - ◆ **Follow band plan** – use the mode the internal bandplan gives for this frequency.
 - ◆ **Use contest mode or bandplan** – if the contest is a single mode, use that mode. If mixed, use the bandplan (as above).
 - ◆ **Use contest or radio mode** – if the contest is a single mode, use that mode. If mixed, use the mode from the radio.
 - ◆ **Always:** – always use the mode selected here
- **Mode sent to radio** – Select how to determine the mode sent to the radio
 - ◆ **Don't change radio mode** – do not sent info to the radio regarding mode
 - ◆ **Follow mode recorded in log** – use the setting as selected above (Setting: Mode recorded in log)
 - ◆ **Except change Log mode RTTY to** – select the radio mode when the log mode is set for RTTY
 - ◆ **Except change Log mode PSK to** – select the radio mode when the log mode is set for PSK

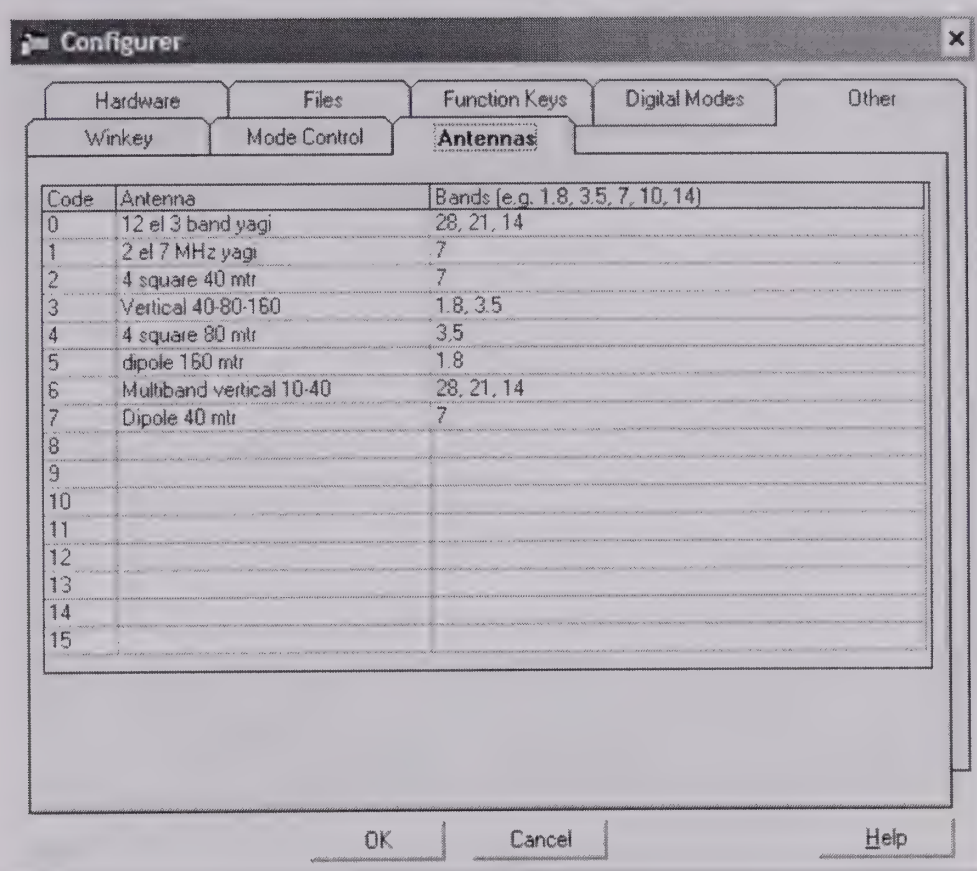


1

2

3

20.9 Antennas tab

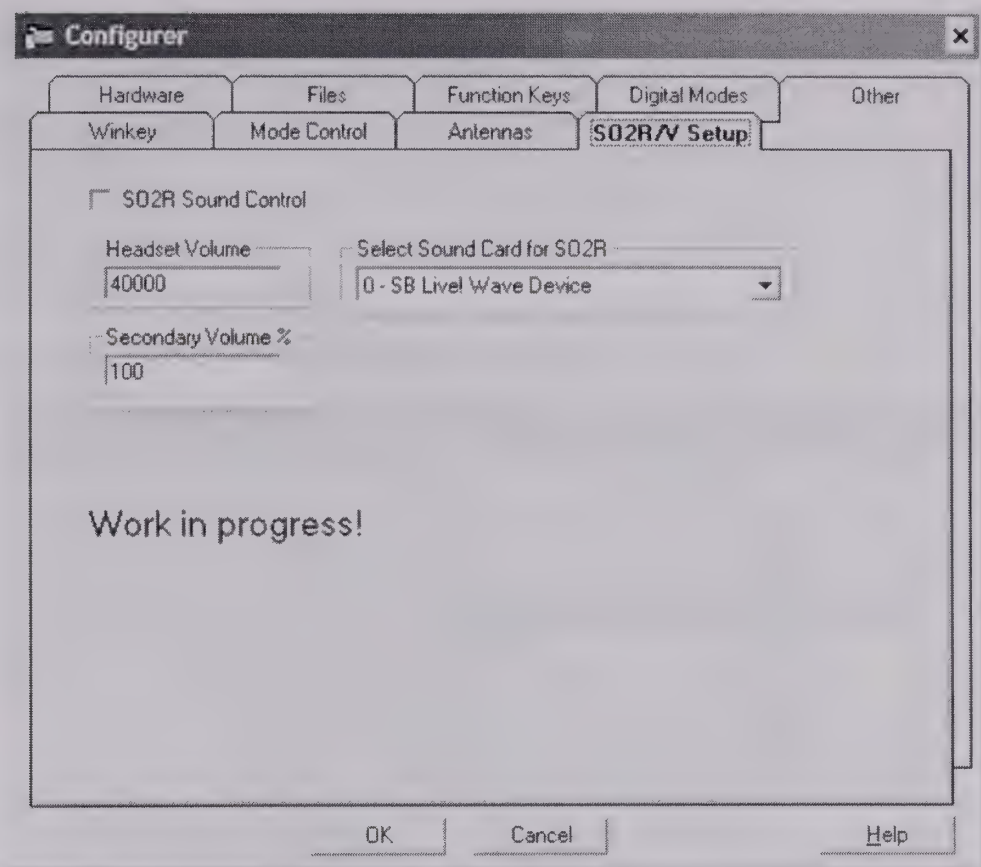


The Antennas tab gives control over which antenna should be automatically selected when selecting a new band. The parallel port is being used to give the needed code to an external Top-Ten type device box. The code to send to the box is setup in this dialog. To replicate the default Top-Ten behavior see the example setup in the [Interfacing chapter](#).

When you press Ctl-F11, you will toggle through all the antennas FOR THAT BAND. If there is only one, then no toggling will occur. When you change bands, the antenna switch will be changed to the antenna with the lowest code for that band. The selected antenna will show in the status pane. Commas are not allowed as separator if that's the decimal separator (in Windows).

- Code – The code which will be presented to the Top-Ten type device.
 - ◆ Each code represents ONE ANTENNA not a band.
 - ◆ Code is binary code on parallel port pin 9,8,7,2.
- Antenna – Free text to describe the antenna, give a meaningful name here.
- Bands – The bands on which this antenna should be used.
 - ◆ Use bands in MHz e.g. 1.8, 3.5, 7 etc.
 - ◆ Bands should be separated by a comma for multi band antennas
 - ◆ An antenna may be used on any number of band

20.10 SO2R/V Setup



Work in progress.

21 Select Log Type Dialog

When starting a new contest you have to fill out the screen below.
It can be found under:

- File
- Choose contest
- Select 'Create a new contest'.

Your Select Log Type Dialog will be similar to this one.

Select a New or Existing Contest Log

Within C:\Program Files\N1MM Logger

☐ Start a new log for a contest

☒ Open an existing log for a contest

Contest	Start Date
REFCW	3-2-2004
RUSSIANDX	3-2-2004
CQ160CW	1-2-2004
SPRINTCW	1-2-2004
REFCW	27-1-2004
DX	22-1-2004
REFSSB	19-1-2004
CQWPXCW	19-1-2004

Contest Specifics

Operator Category: SINGLE-OP 9 Contacts

Band Category: ALL

Power Category: HIGH

Mode Category: CW

Overlay Category: N/A

Claimed Score: 0

Sent Exchange: PA

Operators: PA1M

Soapbox Comments:

Master.DTA Filename: Master.DTA

Change

OK Help Cancel

Note: the program does not validate categories. Check the contest rules for valid categories.

Don't include RST. Examples: CQWW: 05 SS: B 79 EMA

Show Rules (Internet access required)

Update Ops from Log

21.1 General

You need to understand a little about how the N1MM Logger stores contacts. The logger stores a contacts in an Access 2000 database. Multiple contests can be stored in the same database. Within the database, contest information is stored in two tables. One table is for the contacts, and one is for the contest information shown in the Contest Specifics section of the dialog. In this second table



is also stored the start date for the contest. This start date does not affect what contacts are associated with that contest. If you log a contact while a particular contest is chosen, that contact is associated with that contest, no matter what the date of the contact or the contest. The contest date is only used to help you identify a particular contest.

To delete a contest, you must first click on the contest in the Previous Contest pane so it is selected, then press the Delete key.

The contest selection defaults to the correct mode based on the contest.

Log Type: DX, this is the General log. Do do both CW and SSB in this 'contest' choose Mixed mode. Selecting SSB or CW will only allow the selected mode!.

These are the Supported Contests.



Note: Be sure to always load the most recent (and right) CTY.DAT file before entering a contest. Download it from the Internet or use the one send with the most recent update of N1MM logger.

21.2 Field explanations

- **Log Type:** make the choice for the appropriate contest

- **Start date:** The first day of the contest

- **Operator Category:** Make a choice for your situation

Choices are:

- ◆ SINGLE-OP
- ◆ SINGLE-OP-ASSISTED
- ◆ MULTI-ONE
- ◆ MULTI-TWO
- ◆ MULTI-MULTI
- ◆ SCHOOL-CLUB
- ◆ CHECKLOG
- ◆ SINGLE-OP-PORTABLE
- ◆ ROVER
- ◆ MULTI-UNLIMITED
- ◆ MULTI-LIMITED

- **Band Category:** Make a choice for your situation

Choices are:

- ◆ ALL
- ◆ 160M
- ◆ 80M
- ◆ 40M
- ◆ 20M
- ◆ 15M
- ◆ 10M
- ◆ LIMITED

- **Power Category:** Make a choice for your situation

Choices are:

- ◆ HIGH
- ◆ LOW
- ◆ QRP

- **Mode Category:** Make a choice for your situation

Choices are:

- ◆ CW
- ◆ SSB
- ◆ RTTY
- ◆ MIXED

- **Overlay Category:** make a choice for your situation

Choices are:

- ◆ N/A
- ◆ ROOKIE
- ◆ BAND-LIMITED
- ◆ TB-WIRES (tri-bander and wires)
- ◆ OVER-50
- ◆ HQ

The category overlay of the log submission when appropriate. In CQ-WPX CW and CQ-WPX-SSB, category overlay may be any combination of ROOKIE, BAND-LIMITED, TB-WIRES. In STEW-PERRY, category overlay may be OVER-50. In IARU-HF, category overlay may be HQ.

- **Claimed score:** Claimed score for this contest

- Button: **Show Rules (Internet access required):** Go to the website from the contest sponsor on the Internet where the rules can be found.

- **Sent Exchange:** Contest-dependent, mostly a number, zone, state etc

- ◆ Always give the exchange without the RS(T) !!

- **Operators:** Enter here all the callsigns from the operators. Clicking the button 'Update Ops from Log' will do this for you.

- ◆ Button: **Update Ops from Log:** Clicking this button will transfer all operators from the contest log in the operators field

- **Soapbox comments:** Give your comments on the contest, results, propagation etc. This text is cleared when selecting a new contest.

- **Master.DTA Filename:** Shows the selected master.dta file for this specific contest-specific (not contest instance-specific). E.g all qso parties will use the same master.dta filename. Defaults to master.dta.

- ◆ The **Change** button gives the possibility to select a different file for this contest type.

- **Help** – Show the help file for this window

- **Ok** – leave this window saving the contents

- **Cancel** – leave this window without saving the contents

22 General RTTY information

22.1 General info

On the radio make sure:

- Audio processing is off
 - ◆ Speech processing is off
 - ◆ Hi boost is off (Kenwood radios)
- Radio should be in LSB mode
- The most used 'Speed' is 45 Baud (60 words/min)
- The Standard 'SHIFT' is 170 Hz
- When using a TNC set 'Mark' to 2125 Hz and the 'Space' to 2295 Hz
- Don't overrun your finals from the transceiver and/or amplifier
 - ◆ 50 percent duty cycle is mostly ok
 - ◆ See the Interfacing section of this help for urls and tips on interfacing.
- The BAUDOT character-set does not have all ASCII characters so some special characters such as (~ * _ @ # =)? can not be printed/transmitted.
- Almost always only the small filters in the radio are being used (250 – 500 Hz)

22.2 Common RTTY Frequencies

USA (kHz)	USA (kHz)	Europe/Africa (kHz)
<i>Common</i>	<i>DX freq.</i>	<i>Common</i>
1800 – 1840	1830 – 1840	
3605 – 3645	3590	3580 – 3620
7080 – 7100	7040	7035 – 7045
10140 – 10150		10140 – 10150
14070 – 14099,5		14080 – 14100
18100 – 18110		18100 – 18110
21070 – 21100		21080 – 21120
24920 – 24930		24920 – 24930
28070 – 28150		28050 – 28150

22.3 General RTTY info

By Rich, VE3IAY

The 5-bit Baudot code only has enough different characters for 26 letters plus 6 control codes, so to get numbers and punctuation the text has to be preceded with a special "FIGS" character (one of the 6 control codes) to get a second set of 26 characters (10 numbers plus 16 punctuation marks). FIGS is "sticky", so there is another special "LTRS" character to switch back to the letters case.

Just like any other character, these FIGS and LTRS characters can be damaged by noise, QRM, QSB, etc., and if they are, the received info is displayed wrongly until the next LTRS or FIGS character (or the next space, if you are both using UnShift On Space = USOS) comes along and sets things right. Sometimes the opposite happens – a real character is converted by noise into a FIGS or LTRS code, with similar results.

The most common problem that results is numbers being printed as letters, so for example, pretty soon RTTY operators will get used to interpreting "TOO" as "599" and "UE" as "73". Serial numbers are slightly more difficult; "PQW" in the input data is most likely "012", and so on. Letters can also be printed as numbers; for example, "CQ TEST" when converted to FIGS case becomes ":1 53'5".

Various software has different ways of helping out with this. Each way has its own pluses and minuses. In MMTTY run stand-alone, if you right click on a "word", the entire word changes to the opposite case. So, for example, my call sign is converted to ;3E8-6 , and yours would come out as ;-E0) . Some programs have a separate (usually one-line) window in which all incoming text is displayed in the opposite case. N1MM's digital window has an option (available by right-clicking in the DI window) which reserves one line for opposite-case display, but instead of using it to display incoming text as it comes in, it shows text that the mouse "hoovers" over (no click necessary) in the opposite case. This requires you to move the mouse over the offending text, but it doesn't get lost whenever there is a line feed in the incoming data.

If everyone is using USOS (unshift on space), as they should, then most of these errors only last for one "word" (up until the next space), and you can probably get by without any LTRS/FIGS assistance from your software. However, some people refuse to use USOS, and some subvert it by refusing to put spaces in their messages, probably from a mistaken wish to make their messages as short and "efficient" as possible. Having the opposite-case display can be almost a necessity in such cases. These folks haven't yet realized that the goal is to maximize communications throughput, not to minimize the time spent transmitting, and they also haven't yet worked out that a single request for a repeat every few QSOs can cost them more time than they save. In anything less than perfect conditions, this is quite likely.

For example, some people send their exchange as 599-123-123. If you miss the FIGS character, this comes out as TOOAQWEAQWE. Not everyone can figure out the serial number from that, especially if you add in a few other errors so it comes out as TOOAPWEUQWA.

On the other hand, if the exchange is sent as 599 123 123 123 using USOS, a single error does no harm. Even at a fairly high error rate, you still have a reasonable chance of getting two identical serial numbers in the clear and not needing a repeat. Yes, 599-123-123 is much faster than 599 123 123 123 with USOS when conditions are perfect, but when signals are poor, the net throughput of the second version can be a lot higher.

Of course, the guy who doesn't put in any separator at all (599123 or TOOQWE) forces you to enter the entire exchange by hand even if there is no transmission error – maybe his software doesn't recognize serial numbers in the clear, but maybe yours does – does he have to penalize you too?

22.4 MMTTY info

- **NOTCH** – Turns the notch filter on/off. With the NOTCH button clicked right clicking in the waterfall sets the Notch Frequency. If you have 2 notches selected in the setup area then the second time right clicking in the waterfall will set the second frequency.
- **Default Demodulator selection** – Choices are
 - ◆ IIR – Infinite Impulse Response filter has a feedback loop and has an infinite

response to input.

- ♦ FIR – Finite Impulse Response filter is the most basic architecture for digital signal processing.
- ♦ PLL – Phase Lock Loop filter
- **Mark frequency selection** – Mark frequency selection. Standard on HF is 2125 Hz.
- **Shift width selection** – the Shift width is the difference between the Mark and the Space frequency. Standard on HF is 170 Hz. If the mark frequency is 2125 Hertz then the space frequency will be 2295 Hz.
- **AFC** – Turn on or off Automatic Frequency Control. It means if the signal you are copying is drifting and AFC is turned off the interface will not follow the signal.
- **NET** – Turn on or off the ability of the transmit frequency to follow the receive frequency in whatever window the transmit control is located.
- **BPF** – Turn on or off the TX bandpass filter (not necessary to use this filter when in FSK)
- **REV** – Select to listen (only) in reverse. Transmitting is always normal.
- **SQL** – Turn on or off the Squelch. The squelch lowers the value that the AFC will accept to try to lock in. If the squelch is set too high, you will not tune onto weak signals. If you set it too low, the AFC may tune into random noise or a weak signal or tone rather than a bigger signal in the passband.
- **ATC** – the Automatic Threshold Control automatically adjusts the input level in accordance with the strength of the input signal.
- **HAM** – this button restores the values that are in the Demodulator group of windows from MMTTY. The following values will be restored to default values if you press the HAM button. (Mark frequency, Shift width, BW, Baud rate, LPF, AV., Demodulator)

22.5 Some RTTY links

RTTY

- Welcome to RTTYINFO <http://www.rttyinfo.net>
- AA5AU RTTY page <http://www.aa5au.com/rtty.html>
 - ♦ Nice tutorial 'Getting started on RTTY'.
- SM3CER Contest Service <http://www.sk3bg.se/contest/>
- DJ3NG <http://www.qsl.net/dj3ng>
- The RTTY journal <http://www.rttyjournal.com/index.htm>
- RTTY.com <http://www.rtty.com/>
- Jim's Gazette href="http://www.n2hos.com/digital/"><http://www.n2hos.com/digital/>

MMTTY

- Info and downloads from MMTTY at the web Site by Ken, VE5KC at <http://www.qsl.net/mmhamsoft/>
- Internet group by Bill, KB4IJ at <http://groups.yahoo.com/group/MMTTY>

23 RTTY Support

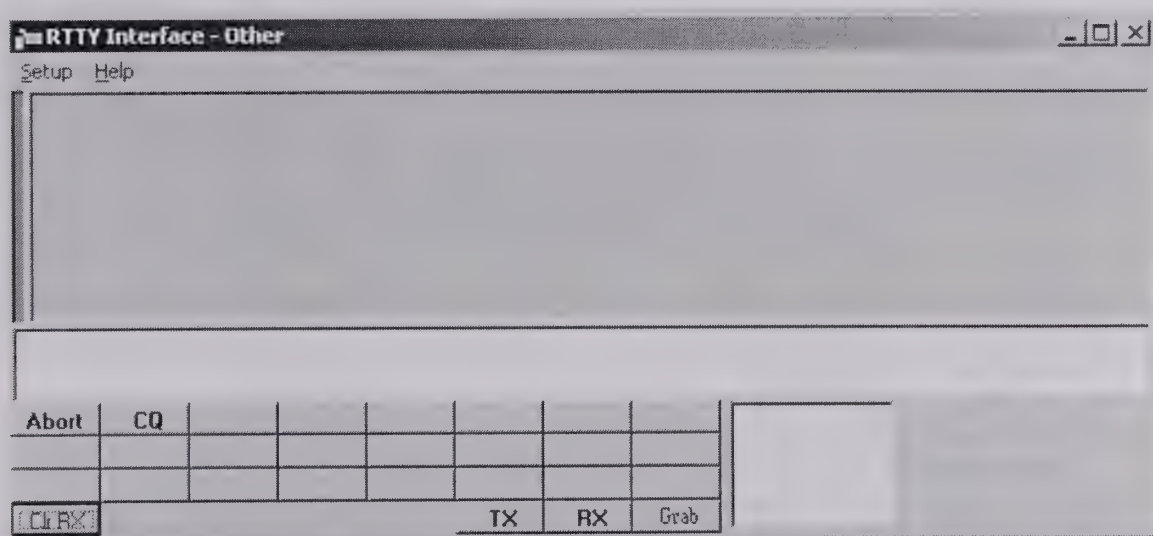
The interface will operate with MMTTY , HAL DXP38 and ANY TNC because the commands for the TNC are not hard coded into the program. This has to be done by the user of the program:-)



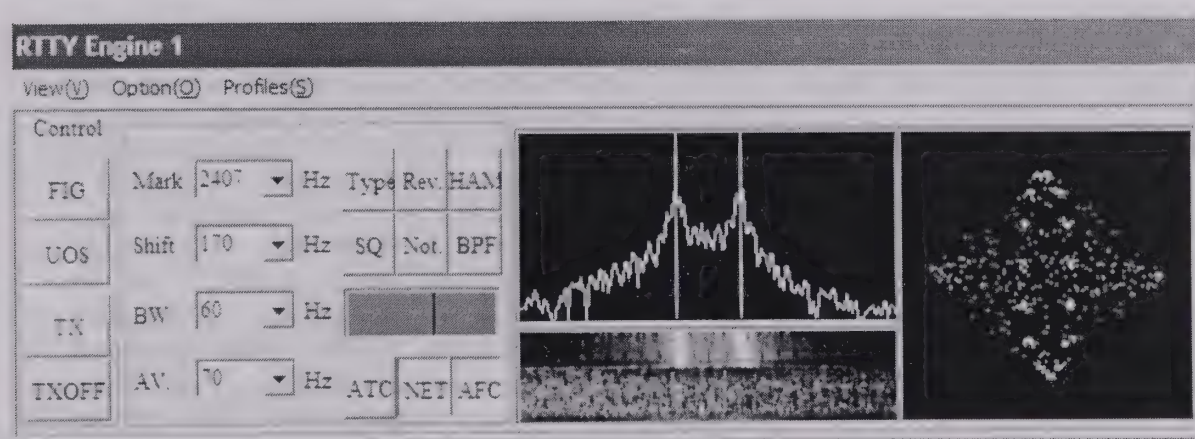
When having troubles please first check the Digital part of the Frequently Asked Questions.

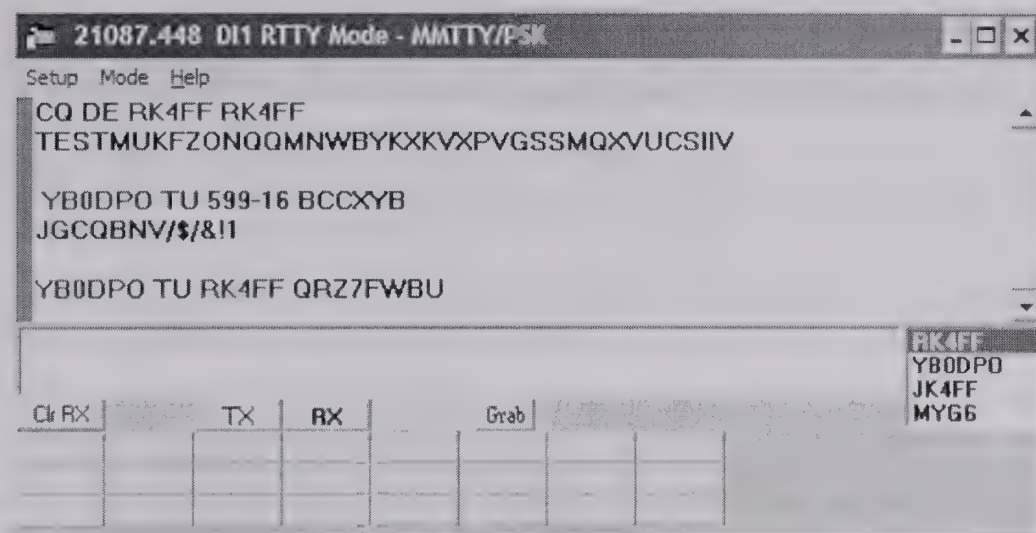
23.1 The Digital Interface

The digital interface can be used with an external TNC and with MMTTY.



This is what the interface looks like for TNC use.





This is the Interface using MMTTY RTTY Engine. The Digital Interface is shown when it is selected under Window in the Entry Window.

If a second RTTY port is configured a menu item will appear on the top of the Digital Interface allowing you to open the second RTTY interface..

The exact frequency is displayed in Digital Interface caption (rig(+/-)audio).

The interface has two windows :

- **Top window** – This is the receive window. This is the window used for making qso's. There are 2 ways of placing a callsign into the callsign window of the logger you can single click on a callsign and it will transfer over to the main logging window. Whenever a callsign is printed to a window followed by a space it will be sent to the callsign grab window for easy movement to the logging window by clicking the Grab button. Also in the window if the LTRS/FIGS Converter is turned on a Text line will appear at the top of the RX window. When the LTRS/FIGS Converter is turned on moving the mouse over text in the window will show the converted text in the Converter text line.
By clicking on the colored pane you can pause input to the receive window to scroll back through the text using the scroll bars. When the window is paused the color of the pane will turn Yellow. To turn input to the window back on click in the pane again and everything that was to be printed to the window will now enter the window.
- **Bottom window** – This is the transmit window, a free form typing window. If you click on the TX button the cursor will be placed into this window and what ever is typed will be sent to your transmitter. The size is static and doesn't change size (2 lines).
Only for TNC users. When not transmitting, anything typed in the TX Window will be sent to the TNC. (Used to change settings etc.)
- **Callsign Textbox and Grab** – When a callsign is encountered in one of the receive windows (starting and followed by a space) it will be placed in this textbox and when you press the Grab button it will transfer the callsign over to the main logger window. The grab callsign window holds the last 4 callsigns seen in the RX window. The most current one is at the top and is highlighted. Dupes are shown in the grab window.
- **Macro buttons** – These buttons on the Digital Interface are 24 extra Macros for preprogrammed messages. Configuring these macros is done in the Digital Interface window under 'Setup, Settings' or by right clicking on them which brings up the Digital setup screen. The macro buttons widths dynamically adjusts in relation to the width of interface.
- **Clr RX** – Clear the receive window

- **TX** – Start the RTTY transmission, the transceiver is keyed. This button is only shown when MMTTY is selected.
- **RX** – Stop the RTTY transmission, the transceiver changes back to receive. This button is only shown when MMTTY is selected.
- **Grab** – Transfer the selected callsign in the Callsign textbox to the callsign field on the main logger window. Once the callsign is filled what ever you click on next will fill the next box to have info entered in. The mouse is the only way to do this.

To scroll back , pause the RTTY screen by clicking the green stripe on the left side of the screen and allow you to scroll back the last 2000 lines of text...

It is possible to have 2 RTTY Interface windows open at the same time. Open your first interface then click again on the menu item called Open 2nd RTTY Window. This feature can be used to copy both the TNC and MMTTY to pick up on callsigns you might have missed etc. Or if you have 2 radios and 2 separate TNC's you can switch between the 2 of them. The above is only true if you have a TNC configured along with MMTTY (not twice MMTTY).

One thing I must point out is the macros for the second Interface window you open up will not be the same as they are for the first window you open.



Focus is automatically returned back to the Entry window when clicking a callsign in the Receive window

23.2 Setup Menu Selections

23.2.1 Selection: MMTTY

- **Setup**
 - ◆ **Settings** – Setting up the digital interface, see chapter below (Setting up the Digital interface)
 - ◆ **SoundCard** (only on first open MMTTY window)
 - ◆ **Receive Mixer** – Shows the Record control mixer dialog from the Windows operating system. *This menu item is only visible when MMTTY is selected.*
 - ◆ **Transmit Mixer** – Shows the Play control mixer dialog from the Windows operating system. *This menu item is only visible when MMTTY is selected.*
 - ◆ **Setup MMTTY** – The MMTTY setup is shown. *This menu item is only visible when MMTTY is selected.*
 - ◆ **AFC On/Off with CQ** – If set then the AFC will turn on with CQ message or TU messages.
 - ◆ **NET On/Off with Run Change** – Option to turn MMTTY's Net function on in S&P and off in Running mode.
 - ◆ **Auto Update TRX Offset w/Mark Freq.** – Option to auto update the transceiver offset whenever the Mark frequency changes. This logs the true mark frequency while using AFSK RTTY.
- **Mode**
 - ◆ **Mode**
 - ◆ **RTTY** – Select RTTY as mode
 - ◆ **PSK** – Select PSK as mode
- **Open 2nd Rtty Window** – Opens a second RTTY window. In Configurer, under the Digital Modes tab, a second Digital Interface has to be chosen.
- **Help** – Shows help file

23.2.2 Selection: OTHER

23.2.3

- **Setup**

- ♦ **Settings** – Setting up the digital interface, see chapter below (Setting up the Digital interface)
- ♦ **Load TNC Settings File** – Ability to load the TNC settings file named "SETTINGS.TXT" to the TNC. Included a file which can be used for the PK-232 (by Rick, N2AMG).

- **Mode**

- ♦ **RTTY** – Select RTTY as mode
- ♦ **PSK** – Select PSK as mode

Help – Shows help file

23.3 Keyboard Assignments

- **Alt-T** – Toggle TX/RX, the cursor will be set to the TX window of the active interface.
- **Alt-G** – Grab callsign.
- **Ctrl-Arrows** – When 2 radios are configured and 2 digital windows are open, pressing CTRL-ARROWS swaps from one active Digital Interface to the other. Digital Interface 1 will follow radio 1 (bandmap A) Digital Interface 2 will follow radio 2 (bandmap B).

23.4 Insert key Assignments

<i>Mode</i>	<i>Enter Sends Message (ESM mode)</i>	<i>INSERT key or ; key does the following:</i>
<i>RUN and S&P</i>	<i>OFF</i>	1. Grab Callsign from call list if callsign field empty otherwise use call in callsign field. 2. Prefilles Exchange Boxes 3. NO DUPE: Sends F5 (Hiscall) + F2 (Exchange) or DUPE: Sends Nothing 4. Places cursor in next exchange field (Example: Sect)
<i>RUN</i>	<i>ON</i>	1. Grab Callsign from call list if callsign field empty otherwise use call in callsign field. 2. Prefilles Exchange Boxes 3. NO DUPE: Sends F5 (Hiscall) + F2 (Exchange) or DUPE WorkDupes checked: Sends F5 (Hiscall) + F2 (Exchange) WorkDupes not checked: Sends F6 (Dupe) 4. Places cursor in next exchange field (Example: Sect) 5. Highlights F8 button
<i>S&P</i>	<i>ON</i>	

		1. Grab Callsign from call list if callsign field empty otherwise use call in callsign field. 2. Prefilles Exchange Boxes 3. NO DUPE: Sends F4 (Mycall) or DUPE WorkDups checked: Sends F5 (Hiscall) + F2 (Exchange) WorkDups not checked:Sends F6(Dupe) 4. Once exchange entered INSERT sends F5-F2 ◆ Pressing INSERT again will continue to send F5-F2 5. Places cursor in next exchange field (Example: Sect)
--	--	--

Pressing Insert or ; and the callsign field is not empty, only F5+F2 text will be send. If the callsign field is empty it will also grab the callsign from the callist.

Upon grabbing a callsign from the callist that callsign gets deleted from the grab list.

If the callsign in the callsign field in the Entry window is equal to the callsign in the received text, the call in the Entry window does not get placed into the call list.

23.5 Mouse Assignments

- **Left mouse key clicking**

- ◆ **Single clicking** on a callsign grabs it and places it in the Callsign field on the Entry Window dialog.
- ◆ **Single clicking** on Exchange info etc. grabs it and places it in the Exchange field on the Entry Window dialog.
- ◆ NB. The callsign field must be filled first!

- **Right mouse key clicking on RX or TX window**

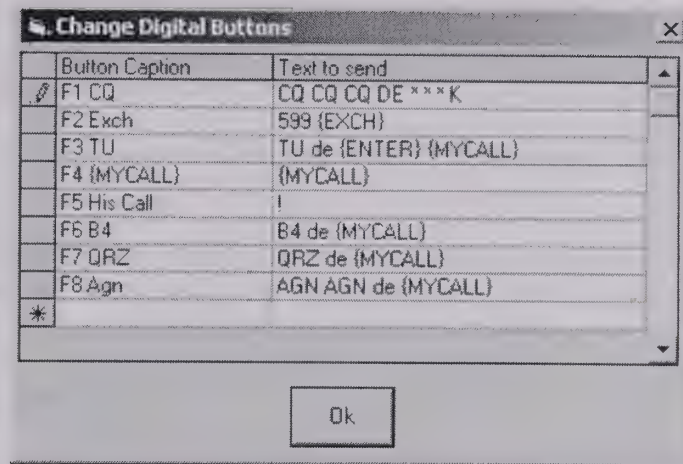
- ◆ gives a menu:
 - ◆ **Clear RX** – Clear the receive window
 - ◆ **Clear TX** – Clear the transmit window
 - ◆ **Output to Text File** – Output the received text to a text file named RTTY1.txt
 - ◆ **LTRS/FIGS Convert** – Whenever you pass the mouse cursor over a word in the receive pane, that one line shows the same word with every character in the opposite case (so 599 becomes TOO, etc.).
 - ◆ **Help** – Show the help file for this window

- **Right mouse key clicking in GRAB window**

- ◆ gives a menu:
 - ◆ **Clear List** – Clear the entire grab window
 - ◆ **Clear Selected Call** – Clear the selected call in the grab window

23.6 Configuring the Entry window function keys

- On the Logger Main Window do a Config>
Edit the Digital Buttons with the texts you want to send. Below an example.



23.7 Macro keys

- There are a maximum of 24 extra macro keys possible on the RTTY interface.
- A right click on the macro buttons brings up the Digital setup screen where the macros can be configured.
- These extra 24 function keys support all the macros but don't support 'Running' mode and 'Search & Pounce' mode.
- Include in your macros the control keys needed to turn on the TNC and switch to RX...
- Macro key substitution is supported by the buttons in the PSK window and the function keys on the Entry window.
The macros which can be used and some examples can be found on the [macros page](#).
- See above for specific macro information in the TNC interface and MMTTY interface sections.

23.7.1 The TNC interface

The TNC Interface will accept all of the Macro keywords that can be used in the Packet window and other places in the Logger and will also accept the following:

{CTRL-A}	{CTRL-B}	{CTRL-C}	{CTRL-D}	{CTRL-E}	{CTRL-F}	{CTRL-G}
{CTRL-H}	{CTRL-I}	{CTRL-J}	{CTRL-K}	{CTRL-L}	{CTRL-M}	{CTRL-N}
{CTRL-O}	{CTRL-P}	{CTRL-Q}	{CTRL-R}	{CTRL-S}	{CTRL-T}	{CTRL-U}
{CTRL-V}	{CTRL-W}	{CTRL-X}	{CTRL-Y}	{CTRL-Z}	{ESC}	{ENTER}

Macro keywords can be used in any of the macro buttons or the Logger function keys..

The TX window will accept all control key commands except for the Esc key, this must be sent as a Shift-Esc combination.

There is one special macro key on the TNC interface. **The very first macro button must be setup to send the abort transmission command.** As you see in the above picture I have this marked as Abort and have it colored RED. If at any time you press the ESC key while transmitting it will send this macro to the TNC to stop transmission immediately.

THEORY OF THE EARTH

The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and sequence of these processes. The theory of the earth is based on the study of the earth's rocks and fossils, and on the principles of geology.

THE EARTH'S HISTORY

The earth's history is the record of the changes which have taken place in the earth and its parts since its origin. It is a record which is written in the rocks and fossils, and which is interpreted by the geologist. The earth's history is divided into three main periods: the primary, the secondary, and the tertiary. The primary period is the earliest, and is characterized by the formation of the earth's crust and the deposition of the primary rocks. The secondary period is the middle period, and is characterized by the deposition of the secondary rocks. The tertiary period is the latest, and is characterized by the deposition of the tertiary rocks.

THE EARTH'S STRUCTURE

The earth's structure is the arrangement of the earth's parts. It is a structure which is determined by the forces which have shaped the earth, and which is interpreted by the geologist. The earth's structure is divided into three main parts: the crust, the mantle, and the core. The crust is the outermost part, and is composed of the rocks and fossils. The mantle is the middle part, and is composed of the molten rocks. The core is the innermost part, and is composed of the molten metal.

THE EARTH'S CLIMATE

The earth's climate is the average weather conditions which prevail on the earth. It is a climate which is determined by the forces which have shaped the earth, and which is interpreted by the geologist. The earth's climate is divided into three main periods: the primary, the secondary, and the tertiary. The primary period is the earliest, and is characterized by the formation of the earth's crust and the deposition of the primary rocks. The secondary period is the middle period, and is characterized by the deposition of the secondary rocks. The tertiary period is the latest, and is characterized by the deposition of the tertiary rocks.

You must remember that when you set up a macro key that is not a TNC command you will need to include the sequence to key your TNC before it sends. If you click on the macro with out the TNC transmitting, your TNC will think it is a command being sent to it and not know how to process it.

TNC users still need to enter in what ever CTRL characters are needed to turn on and off your TNC....

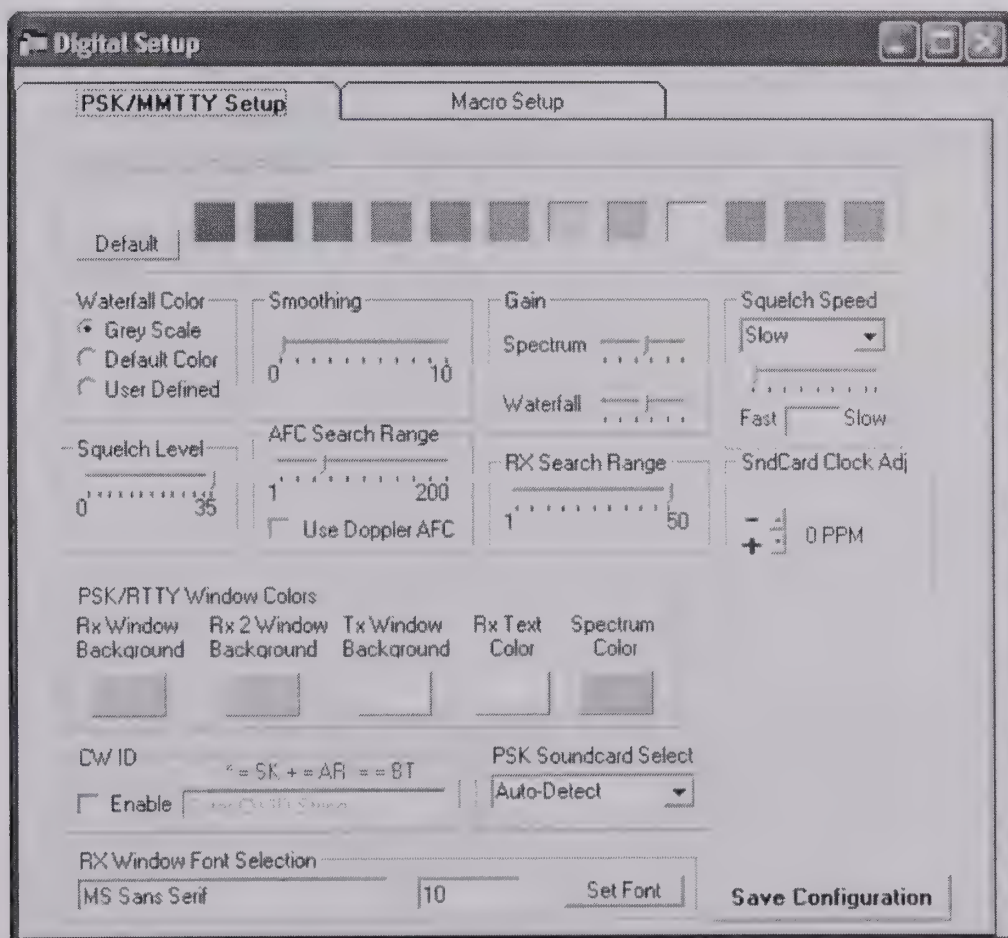
To use the free form typing in the TX window you need to create a macro that will key your TNC and another to Turn it off. Click the macro that starts transmitting and then click in the TX window. Whatever you type will be sent out... then click the macro to turn things off after you are done.

23.7.2 The MMTTY interface

- The macros for the Interface using MMTTY are different from the way they work with the TNC . What ever you put in the macro will get transmitted. There is a macro keyword needed to turn TX ON {TX} or OFF {RX}.
- There is no special abort macro needed for use with MMTTY just using the ESC key will stop transmitting.
- The TX and RX buttons are for the free form typing in the TX window.
- When MMTTY loads it loads the last used settings when the Interface was closed.

23.8 Setting up the Digital interface

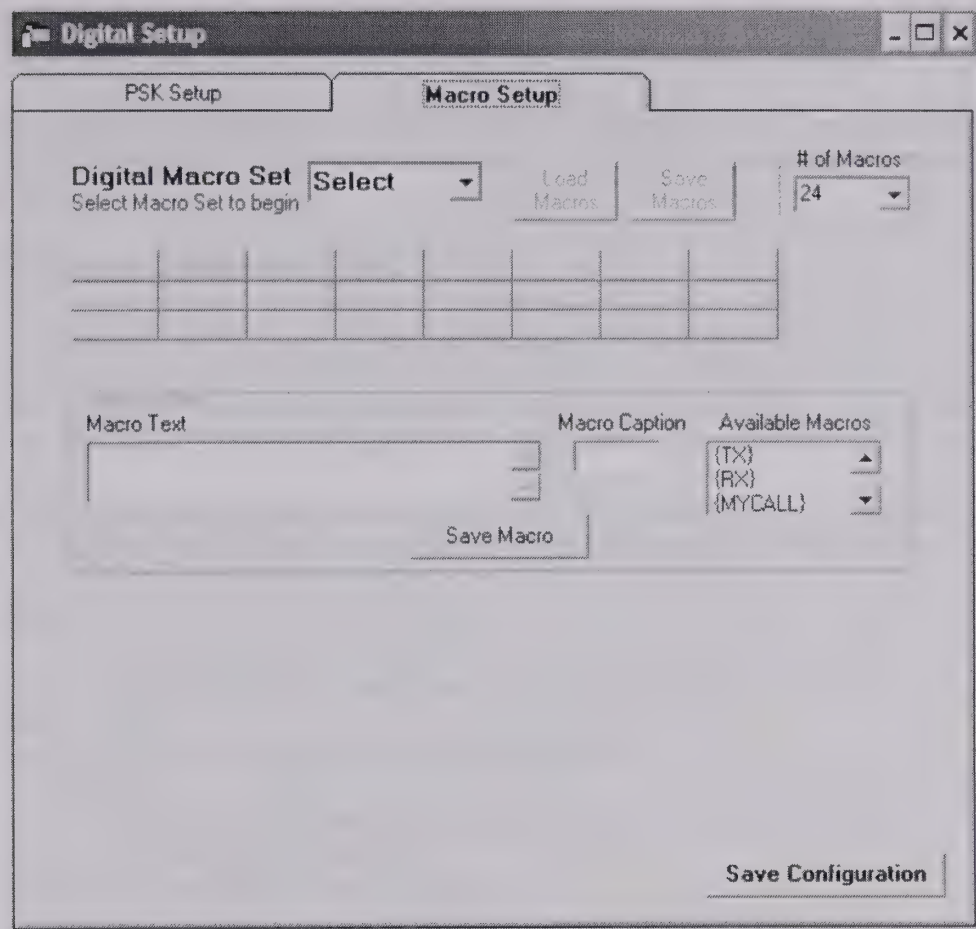
When selecting 'Settings' in the menu a screen like the one below will be shown.





- **PSK Waterfall Color palette** – The 12 colors that make up the color palette can be changed to represent whatever colors you would like. The colors go from the weakest signal on the top to the strongest signal on the bottom. There are two pallet settings (use dropdown box to select). The **Default** button changes the colors back to the default colors. The color Palette is active when the User Defined selection is selected in the Waterfall Color Box.
- **Waterfall Color** – Select between
 - ◆ Grey Scale
 - ◆ Default Color
 - ◆ User Defined
- **Smoothing** – Sets the amount of smoothing
- **Gain** – Sets the amount of signal gain for the Spectrum/Waterfall
- **Squelch Speed** – This is how quick your squelch filters. Select between Slow, Fast and Variable. When using variable select a value between 0 and 200.
- **Squelch Level** – This level represents the noise level as to where you would like the interface to start copying signals at. 0 indicates an open squelch and everything will be decoded.
- **AFC Search Range** – This is how far in Hz the interface will track a drifting signal.
- **Use Doppler AFC** – Toggle doppler AFC.
- **RX Search Range** – This is how far in Hz the interface will look to lock onto a signal when you click on a signal in the waterfall or spectrum.
- **RX/TX Font Size** – This is the font size for the receive windows and the transmit window. You can select from 8pt, 10pt, or 12pt.
- **PSK/RTTY Window Colors** – The PSK and RTTY receive And the transmit window background colors can be changed here.
- **SndCard Clock Adj** – Soundcard Clock adjustment
- **CW ID** – If this check box is checked the interface will send the string entered in the filed behind it (Enter CWID String). This string will sent after every transmission.
- **PSK Soundcard Select** – Select the soundcard to be used when having more than one soundcard in your computer.
- **RX Window Font Selection** – Change the font ans size. Press the 'Set Font' button to get the selection window.

[Faint, illegible text, likely bleed-through from the reverse side of the page]



- **Digital Macro Set** – Update the macros definitions and button texts.
 - ◆ Select an interface from the dropdown menu. Choices are: PSK, MMTTY 1, Other 1, MMTTY 2, Other 2
 - ◆ Click on the macro button which has to be updated
 - ◆ Type the macro text in the field 'Macro Text'
 - ◆ Type the text on the button in the field 'Macro Caption'
 - ◆ Click on the '**Save Macro**' button when satisfied
 - ◆ The selected macro caption text will be shown on the button
 - ◆ Available macros are shown in the box 'Available Macros'. First select a macro button to see them all.
 - ◆ Below the CW ID check box are two extra Macro buttons which have to be configured as **TX/RX** buttons. Enter what control codes are needed to turn on and off your TNC. *Only visible when Other1 or Other2 is selected.*
 - ◆ **When Other1 or Other2 selected**
 - ◆ **RX** – Receive macro
 - ◆ **TX** – Transmit macro
 - ◆ **ESC** – Abort macro
- **Load Macros** – Load saved macros from a saved file (*.mc) to the Digital Macro Set.
- **Save Macros** – Save macros from the Digital Macro Set to a file (*.mc).
- **# of Macros** – select the number of macro buttons. You can select 0, 8, 16 or 24.
- **Macro Text** – Area where to create the macro text for the selected macro.
- **Macro caption** – Macro caption from the button.
- **Available Macros** – shows the available macros. Clicking on a macro will transfer it to the macro text area.

- **Save Configuration** – save the made configuration changes. If the changes made should not be saved select the cross in the upper right corner to close the window.

Any changes made in the setup form must be saved by clicking the Save Configuration Button located on the bottom of the form. Any changes made and saved will be changed as soon as the setup area closes.

23.9 Test your External TNC

Make sure your radio and TNC work on your computers COM port by testing them with an existing terminal program. Connect your TNC/Radio into your computers COM port. The Hyperterm terminal program is included with Windows and works well. Make sure you note all COM port parameters. You should be able to tune in a RTTY signal and print it on the Hyperterm terminal program.

The interface has been tested with the three mentioned TNC's below and work fine with them. Any other TNC should also work as long as you place the right commands for that TNC in the macros.

23.9.1 KAM

- Launch Hyperterm and set its parameters to 9600 baud, 8-data, no-parity, 1 stop bits, and no flow control.
- Connect the KAM to the port configured in Hyperterm.
- Turn on the KAM.
- When you see the message "Press (*) to set Baud Rate, press the "" button.
- Then set your callsign as prompted.
- To place the unit into RTTY mode type "RTTY".
- Also make sure the unit is set up for software handshaking XFLOW = ON.
- Once you are communicating with the KAM and have it in the RTTY mode, you can also tune in a RTTY signal and it will decode and print on the Hyperterm screen.
- Now try a transmit by typing a Ctrl-C and a "T" on the keyboard followed by several characters that you wish to transmit. To get back to receive, type a Ctrl-C and a "R".
- If you have problems, consult your KAM manual.
- Now exit the Hyperterm program and start Logger.

Below some RTTY settings for the KAM TNC

AUTOOCR	0	AUTOLF	ON	AUTOSTRT	OFF
BKONDEL	ON	CD	SOFTWARE	CRADD	OFF
DIDDLE	ON	ECHO	ON	FILTER	OFF
FSKINV	OFF	INVERT	OFF	LFSUP	OFF
LOWTONES	OFF	MARK	2125HZ	RBAUD	45
SHIFT	170	SPACE	2295HZ	USOS	ON
XFLOW	ON	XMITECHO	ON		

23.9.2 SCS PTC

- Take the PTC as you use it for other digimode programs e.g. ALPHA (by DH7RG), XPWIN (By KF7XP), LOGGER (by K4CY)
- Set the PTC to **SERBAUD 19200** (not AUTO !) > switch the *PTC OFF*
- Start N1MMLogger > Config > Configure Ports, Telnet Address, Other > Digital Modes. Check ,Digital Interface 1' and set it to **OTHER**, set the used COM-Port to *19200 Baud, N-8-1-none*. Set the ,Digital Interface 2' to ,NONE'
- Click at N1MMLogger on *Windows* and start the *RTTY/MMTTY Interface*.
- Be sure that the PTC is connected to the right COM-port and switch it *ON* and the start info will appear in the upper window finished by the prompt *cmd:* If you can't see anything check COM-port and settings.
- Click in the lower window, entry with the keyboard *ESC+Shift – bau 45 – ENTER* the PTC will switch to RTTY (look at the PTC mode display). Add ,ESC-Shift – term 1 – ENTER' to switch the PTC to echo the transmitted signs in the upper window. Note : ESC without shift will switch the cursor to the main window
- The very first upper left key of the RTTY interface window **MUST** be include an ABORT in order to get a correct function for canceling the AUTO-CQ function or make a break with the ESC-key on the keyboard. Click right on the upper left key, use the Digital Macro Set = OTHER 1, generate the Macro : {ESC}dd{ENTER}{ESC}bau 45{ENTER} and name it ABORT. The macro will reset the PTC-2 to PACTOR, clear the TX buffer and switch the PTC-2 back to RTTY.
- The next key may be configured to switch the PTC-2 from the default state PACTOR to RTTY. Use {ESC}dd{ENTER}{ESC}bau 45{ENTER}{ESC}term 1{ENTER} and give the name RTTY. Every time you start the PTC-2 you may click on this key to start the RTTY-mode. You need 'term 1' to get a delayed echo on the RX-window when your text is transmitted.
- Click right on an other macro key, use the same OTHER 1 set, and generate a SWITCH ON/OFF macro as {CTRL-Y} to transmit with the keyboard. Try to enter text after you have switched to transmit. You may generate macros with simple QSO texts using the installed N1MMLogger macros as !, *, DATE, TIME etc. Use {CTRL-Y} to switch TX ON and OFF.
- See for some macro examples at macros page..

23.9.3 PK-232

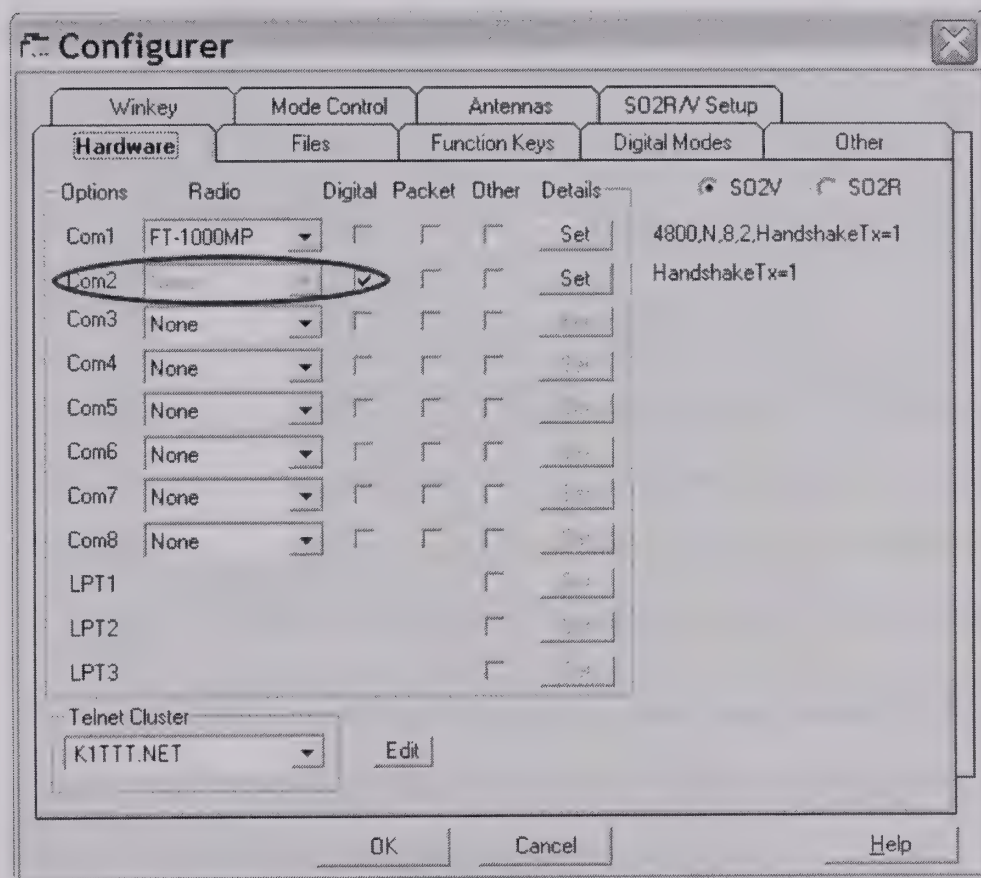
- Make sure the PK-232 autobaud is set and the unit is set to RTTY mode.
- Launch Hyperterm and set its parameters to 1200 baud, 8-data, no-parity, 2 stop bits, and no flow control.
- Connect the PK-232 to the port configured in Hyperterm.
- Turn on the PK-232.
- Type a few "" characters so your PK-232 will autobaud to the 1200 baud rate.
- Now place the PK-232 in the RTTY mode by typing the command "BAUDOT". It should respond OPMODE now BAUDOT.
- Turn the threshold pot full clockwise and make sure the LED is on.
- Also make sure the unit is set up for software handshaking XFLOW = ON.
- Once you are communicating with the PK-232 and have it in the BAUDOT mode, you can also tune in a RTTY signal and it will decode and print on the Hyperterm screen.
- Now try a transmit by typing a "X" on the keyboard followed by several characters that you wish to transmit. To get back to receive, type a Ctrl-C and a "R".
- If you have problems, consult your PK-232 manual.
- Now exit the Hyperterm program and start Logger.

23.10 Setting up the PK-232

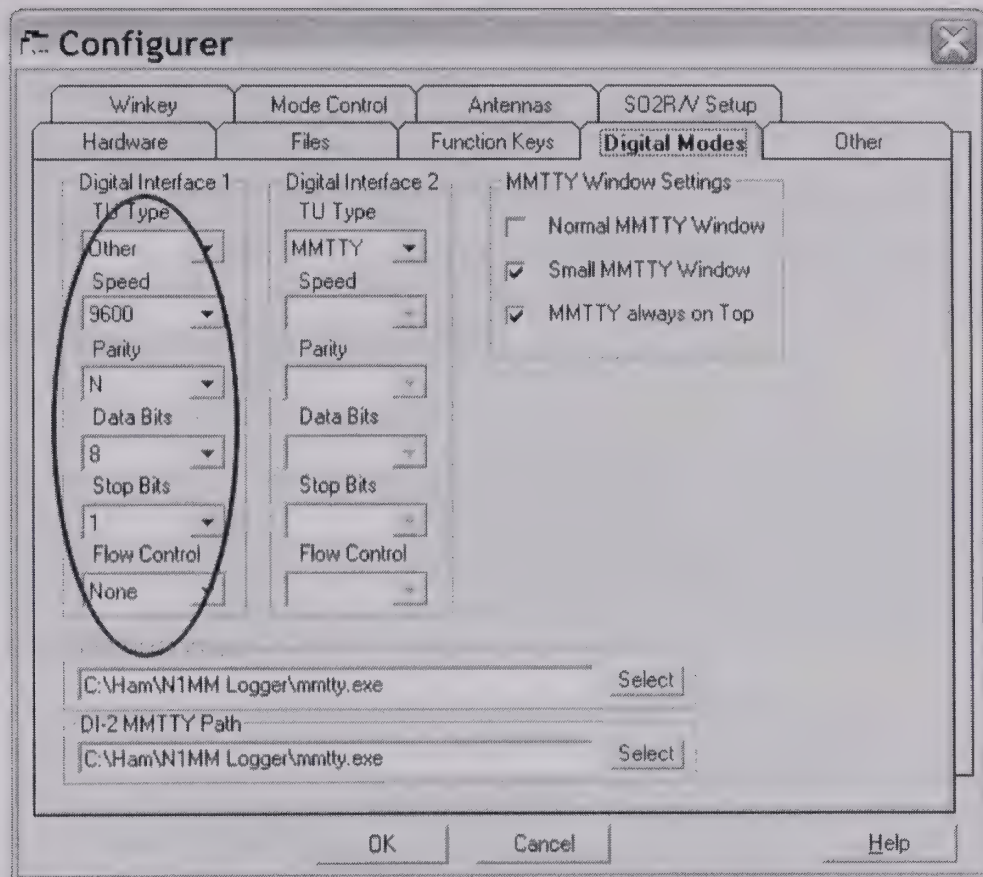
By John VK4WPX / VK4CEJ

Setting up the PK-232 for RTTY is very simple and straightforward.

- First, open the 'Configurer' (On the main logging window click Config, Configure Ports, Telnet addresses, Other)
- Click the Hardware tab
 - ♦ Click in the box adjacent to the COM port that you have your PK-232 connected to in the column labeled 'Digital'
 - ♦ See picture below, the example here shows the PK-232 on COM-2.



- Next, click on the Digital Modes tab and set up the Digital Interface 1 parameters.
 - ♦ The example in the picture below shows that the PK-232 is set for 9600 baud, no parity and 8 data bits.



Setting up macros and the main logging window "F" keys for the PK-232 is also really very simple.

- Modify any existing macros that came pre-configured by replacing every instance of ' {TX} ' with ' {CTRL-C}Xmit{ENTER} '
 - ◆ I found that the command did not work every time unless it was followed by the {ENTER}
 - ◆ or, if the macro does not have {TX} or {RX} in it and you want it to start transmitting or go to receive, add those commands and, replace every instance of {RX} with {CTRL-D}
- Example: F1 "CQ" macro would therefore be " {CTRL-C}Xmit{ENTER}CQ CQ CQ DE * * * K{CTRL-D} "
- Example: F5 macro "Hiscall" would be " {CTRL-C}Xmit{ENTER}! "
 - ◆ Which would leave the rig in transmit mode so that you could type more info in the transmit window
 - ◆ To return to receive, press Ctrl-D (hold down the Ctrl key and press D).

23.11 Setting up the KAM

There are three parts in setting up N1MM logger to work with the KAM.

1. **Port configuration**
 - ◆ The KAM should have a checkmarks in digital.
2. **Digital configuration**
 - ◆ On the digital configuration screen
 - ◇ Choose a free port and configure it for 9600 baud, N,8,1 and none
3. **Macro Creation required to control the KAM**

- ◆ Set the TX macro to: `{CTRL-C}T`
 ◇ will go into transmit
- ◆ Set the RX macro to: `{CTRL-C}E`
 ◇ return to receive after the message is completed.
- ◆ Set the ESC macro to: `{CTRL-C}R`
 ◇ this will immediately return the system to receive before sending any text.
- ◆ Example:
 ◇ CQ macro: `{TX} CQ CQ CQ DE W3PP W3PP W3PP KKK {RX}`

23.12 Setting up the HAL DXP38

By Brian, K3KO

The following instructions will get the HAL DXP38 TNC up and running for FSK in N1MMLogger. I admit to not trying AFSK but it should work. This implementation is not elegant but does work with some 'features' of its own. There is a built-in tuning indicator accessible through macro toggles. The implementation is very basic but is working, there are other programs around if you want all the bells and whistles. Thanks go to N2AMG for making the program changes necessary to accommodate HAL commands.

Since there is essentially only one way communication between N1MMlogger and the DXP38 in the command mode, don't expect error checking or error detection. It is assumed that turning on the DXP38 properly loads the internal software. No capability exists here to do such. No capability exists to update the internal programs. This must be done with the HAL software. My unit uses the latest update .LOD and .S28 files from the HAL website <http://www.halcomm.com>. It is not clear that the updated files are needed here. However, the reason given for the update was to fix a PTT error with another program. So if you are having problems with PTT activation, these updates may be appropriate. Unless you alter the attached initialization macro, you must use LSB RTTY for FSK or LSB for AFSK..

There are three distinct phases – Hardware setup, Software Setup, and Use. The last section discusses two problems that have cropped up and solutions found.

23.12.1 Hardware Set-up

It is recommended that one first get the DXP38 running with WF1B, HAL or a known 'tried and true' software package first. Doing so eliminates the need to troubleshoot both hardware and software when configuring N1MMLogger. Hardware setup:

1. Connect the PTT and FSK lines to the rig
2. Connect the COM port (1 for HAL software) to the TNC
3. Connect audio input to the DXP-38
4. Connecting the power.
5. Connecting AFSK output to the rig (AFSK only)
6. Consult the DXP-38 manuals for the details. The rig must be set *FSK RTTY (LSB)* or *LSB for AFSK*.

23.12.2 Software Setup in N1MM logger

There are three parts in setting up N1MM logger to work with the HAL DSP38. Make sure the version of N1MMLogger being used supports the DXP38 hexadecimal commands (version 3.0.187 and later).

1. Port configuration

- ◆ The DXP38 port should have checkmarks in digital and set. DTR/RTS should be set to always on.

2. Digital configuration

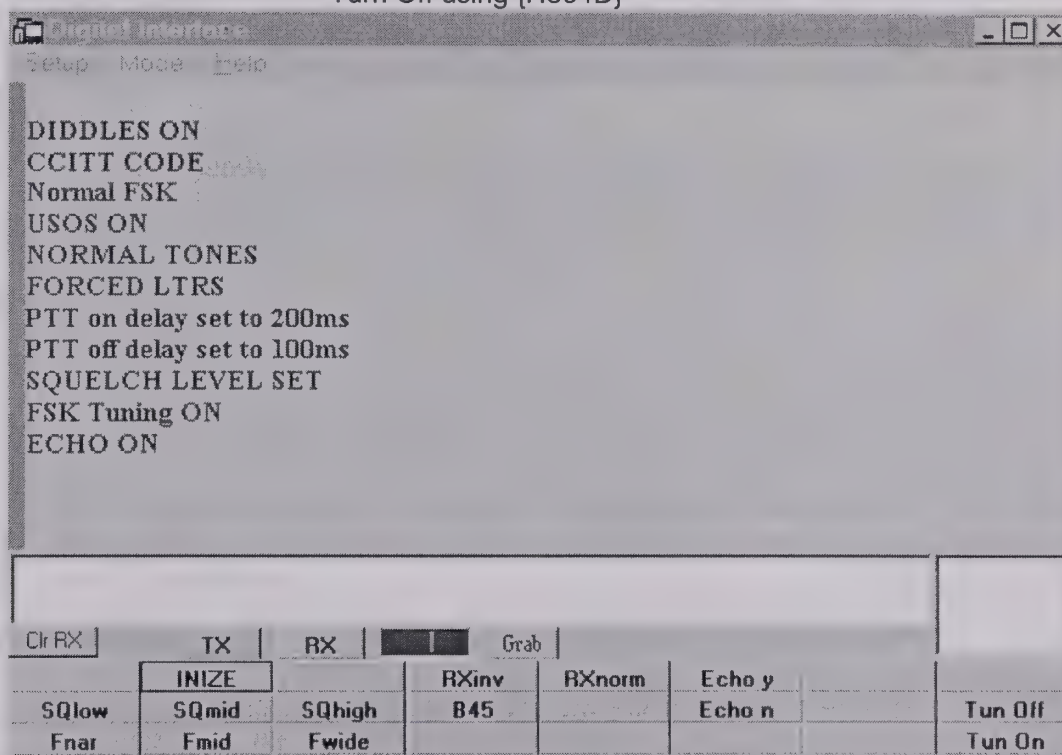
- ◆ On the digital configuration screen
 - ◇ Choose a free port and configure it for 9600 baud, N,8,1 and no handshaking.
 - It works fine on the first port but was not tried yet on the second channel. Nor have I tried using two channels.
 - I have been able to get the DXP38 to run on the first port and MMTTY on the second port.

3. Macro Creation required to initialize and control the DXP38

- ◆ These macros are the *24 box macros* not the function keys.
 - ◇ Important. This process is error prone. Go to the N1MM logger directory and create a backup of the MDB file in use. If you don't, the results of an error in the macros could be unpleasant. The program may give one a 'type mismatch' error which may not be correctable without either a whole new logging file or somehow editing the .MDB file (using Access) to remove the error. If one does cause this error to happen, just copy the backup file to the original file name. It is a good idea to do the macro creation in steps with backups along the way. N2AMG has some coding in place to help avoid the unpleasantness.
- ◆ Command structure
 - ◇ The HAL DXP38 expects commands in the form of two hexadecimal bytes. The first byte is hexadecimal 80 and the second is the hexadecimal command number. Some commands require a second set of two bytes giving the value of a parameter being set. These commands look like {H8084} on the macro page. The { } tell N1MM it is a function, not text. The H triggers the routine which reads what follows as two hexadecimal, one byte numbers and sends them to the DXP38. The first number is always 80. Note: Only the numerals 0-9 and the letters A-F can be used to define the hexadecimal number. Use of any other characters within { } will produce a type mismatch and unpredictable operation. Any text character not in { } is considered text to be sent by the DXP38. As such, it will put the TNC into the transmit mode. The TNC will not return to the receive mode at the end of the macro unless a {RX} is present.
 - ◇ Common errors: the use of (>s instead of {, the letter O for a zero, lower case L for a 1.
- ◆ Macro programming
 - ◇ Right click on an empty macro box on the RTTY TNC screen. This will open the macro editing screen which has to be edited. Make sure the commands are of the form {H80xx}. Be very careful with the syntax. There must be four digits and a leading H. Save the macro file and save the configuration. The example uses the macro 'Other 1' and saved the file under 'Other 1.mc'.
 - ◇ The HAL command set included in the DSP4100 TNC technical documentation at the HAL website.
 - ◇ The printout of the macro file below shows an example.
 - The ESC macro under the TX, RX definition box and (it is no longer the first macro box).
 - The INIZE macro is the initialization macro.
 - Although shown on two lines in most editors, it is programmed as just a series of commands in N1MM.
 - The last command is a return to RX (in hexadecimal). This initialization macro establishes the following TNC

characteristics: FSK, BAUDOT, 45 baud, normal FSK mark, normal tones, USOS on, force to letters, TX/RX polarity the same, diddles on, squelch level set to 15, PTT delay =200 ms for XMIT and 100 ms for RX, transmit text echo and tuning indicator on.

- There are three levels of squelch control provided. The second word in the macro contains a 80nn. The nn is the squelch level. Zero is the lowest and 99 is the highest. You may have to tailor these to your particular radio. RXnorm and RXinv permit inversion of received signals. Echo y (echo yes) and Echo n (echo no) permit echoing of the transmitted characters as they are sent in the received screen area.
- Fnar, Fmid, Fwide are the filter width selection macros (55Hz, 75Hz, 100Hz).
- B45 sets the baud rate to 45 baud. If you want another rate change the 8000 command to 800x, where x =1, 2, 3, 4, 5 for 50, 57, 75, 100, 110 baud respectively.
- Tun on and Tun off control the tuning indicator. The tuning indicator is a freq offset bar indicator with a center zero position. Turn the radio knob towards the bar until it aligns with the center mark. This indicator currently has one problem. It can't be used with call capture. The frequency offset data being sent back confuses the call capture logic.
 - Turn On using {H805D}
 - Turn Off using {H804D}



Example Macro file (other 1.mc). This macro is available for download from the N1MM website (Other files).

```

*,-
INIZE,{H8084}{H8085}{H80D1}{H80C0}{H80DB}{H80D3}{H805B}{H8089}{H80E3}{H8002}{H
*,-
RXinv,{H804C}
  
```


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1. Name of the student: _____
2. Name of the instructor: _____
3. Title of the project: _____
4. Date of the report: _____
5. Grade of the report: _____

6. Summary of the project: _____
7. Description of the experiment: _____
8. Results and discussion: _____
9. Conclusion: _____
10. References: _____



11. Appendix: _____
12. Bibliography: _____
13. Acknowledgments: _____
14. Signatures: _____
15. Date: _____

```

RXnorm,{H805C}
Echo y,{H8059}
*, -
*, -
SQlow,{H80E8}{H8015}
SQmid,{H80E8}{H8037}
SQhigh,{H80E8}{H8045}
B45,{H80E4}{H8000}{H800E}
*, -
Echo n,{H8049}
*, -
Tun Off,{H804D}
Fnar,{H80EB}{H8000}
Fmid,{H80EB}{H8001}
Fwide,{H80EB}{H8002}
*, -
*, -
*, -
*, -
*, -
Tun On,{H805D}
TX,{H800D}
RX,{H800E}
ESC,{H8006}

```

First time startup

- Start up N1MM logger first.
 - ♦ After the program loads, make sure focus is on the TNC received text screen. Then turn on the DXP38. If the data link is OK , an @ will be printed on the screen. You will have to create the macros the first time, save the configuration and save the macros to the file. I saved them to the 'other 1.mac'.
- Subsequent startups
 - ♦ Turn on the DXP38. Start N1MM logger. Click on the INIZ macro. One should see a text rendition of the initialization process on the screen. See the picture above. If the function keys have not been defined yet, do so. Almost without exception, end with an {RX}. The call sign in the S&P mode might not have the {RX} command. Now use the program as one would a CW or SSB contest. Call capture as well as the insert key work just like the CW mode. Note: The initialization macro puts the TNC and rig in the transmit mode. No other macros do unless one imbeds text characters, spaces or a {TX} command.

23.12.3 Known problems

I have experienced some occasional problems on start-up and shutdown.

Startup – Sometimes the DXP38 and N1MM logger just don't want to communicate. The TNC won't accept the initialization commands. The cure is to shut off the TNC and wait about 45 seconds. Shutdown N1MM logger. Start up the TNC and wait until it has finished its internal initialization. (LED indicators have stopped flashing). Restart N1MMLogger. This may be a problem I have with the COM3 port here and you may never see it.

Shutdown – About half the time the DXP38 will go into the transmit mode when N1MMLogger is shutdown. The cure is to turn off the DXP38. Hopefully a more graceful shutdown can be

developed.

23.13 Download, configure and test MMTTY

23.13.1 Download MMTTY

- Download the current release of MMTTY from: <http://www.qsl.net/mmhamsoft/>
 - ♦ **At least version 1.64 is needed**
- Run the setup program and install this to your computer (preferable) in its own directory
 - ♦ Don't install in the N1MM logger directory when using a MMTTY version from before July 7 2002m, when uninstalling MMTTY all files in the install directory will be deleted and with that also N1MM logger. MMTTY version 1.64 uses a new installer and does not have this problem anymore.
- The NewExe contains the file XMMT.ocx needed for MMTTY version 1.64 or higher and should be in the N1MM Logger directory after an update.

23.13.2 Configure MMTTY

FSK KEYING

1. In main Config area Digital Pane
 - ♦ Select MMTTY as your Interface type
 - ♦ Select the path to your MMTTY directory which does not have to be the same directory as the logger is installed in.
 - ♦ Select the MMTTY Interface Type (FSK)
2. In Main Config area Hardware pane
 - ♦ Place a check mark under the digital column that you are using for the digital port
3. Save and exit If MMTTY is already loaded you will probably get an Error message about not being able to open port xxxx.
4. Open the digital Interface and when MMTTY Loads select: Settings/Setup MMTTY
5. Click the TX Settings pane in the MMTTY Setup area and set your comport that you will be using for FSK keying and Data.
6. Close the Setup Window and then close the Digital Interface to have MMTTY save the settings.
7. From this point every time the digital Interface loads It will NOT pass the port info to MMTTY. MMTTY will load the the Com settings from is own settings file.

Using the RIGblaster interface for FSK with N1MM/MMTTY combo.

The default for FSK via MMTTY is TXD. You'll need to change the jumper in the Rigblaster. Also, make sure you get MMTTY working as a standalone first. Then you should just be able to specify MMTTY in the digi interface config in N1MM and it should take off. If you are lucky enough to have a radio where PTT is asserted via radio control (Kenwood is one) then leave the PTT unchecked in the port setup and checked in the PTT via rig control portion.

AFSK KEYING

1. In main Config area Digital Pane
 - ♦ Select MMTTY as your Interface type
 - ♦ Select the path to your MMTTY directory whcih does not have to be the same directory as the logger is installed in.
 - ♦ Select the MMTTY Interface Type (AFSK)

2. In Main Config area Hardware pane

- ◆ Place a check mark under the digital column that you are using for the digital port.

In order to use 2 copies of MMTTY you need to have 2 different keying comports setup for MMTTY to use. And the second comport must be a higher number than the first.. More info can be found in the SO2R chapter.

23.13.3 Testing MMTTY

MMTTY is also a stand alone application. So testing can be done outside N1MM logger.

23.13.4 Tips using MMTTY

How to tune RTTY

- Use the vfo on your radio and dial in the peaks to match the 2 yellow lines on the spectrum
- Click view and the X-Y scope
- Make sure you click the "ham" button for proper shift etc.
- Probably set AFC off..when you are in a crowded section of the band and manually tune the signals
- Also in crowded sections its helpful to use the built-in notch and bandpass filters
- Make sure your in LSB

Periodically you get a lost sound indication in the MMTTY window and the program quits responding to RTTY.

- This happens every 20 minutes or so. Try increasing the priority with which MMTTY runs from its default "high" to "highest". This is one step below the maximum "critical". This setting is in MMTTY under Options, Setup MMTTY and the MISC tab..... Mostly the transition from RX-TX-RX is much smoother.

When should I use AFC

- You use AFC (automatic frequency control) when you wish to have MMTTY automatically track the incoming RTTY signal.
- With AFC and NET turned on, MMTTY will track the incoming signal and also keep your transmitter frequency locked to the received signal when using AFSK.

When MMTTY is set to transmit FSK, AFC will work on receive only. When in "run" mode, your want to keep your TX frequency stable, but with RX AFC set on you can pick up stations who reply a bit off your frequency and copy the exchange without losing your TX spot. Just don't let the AFC spread get too far from where you're transmitting.

- A nice option to use is: **AFC On/Off with CQ** – If set then the AFC will turn on with CQ message or TU messages.

*When should I use the NET option: **NET On/Off with Run Change***

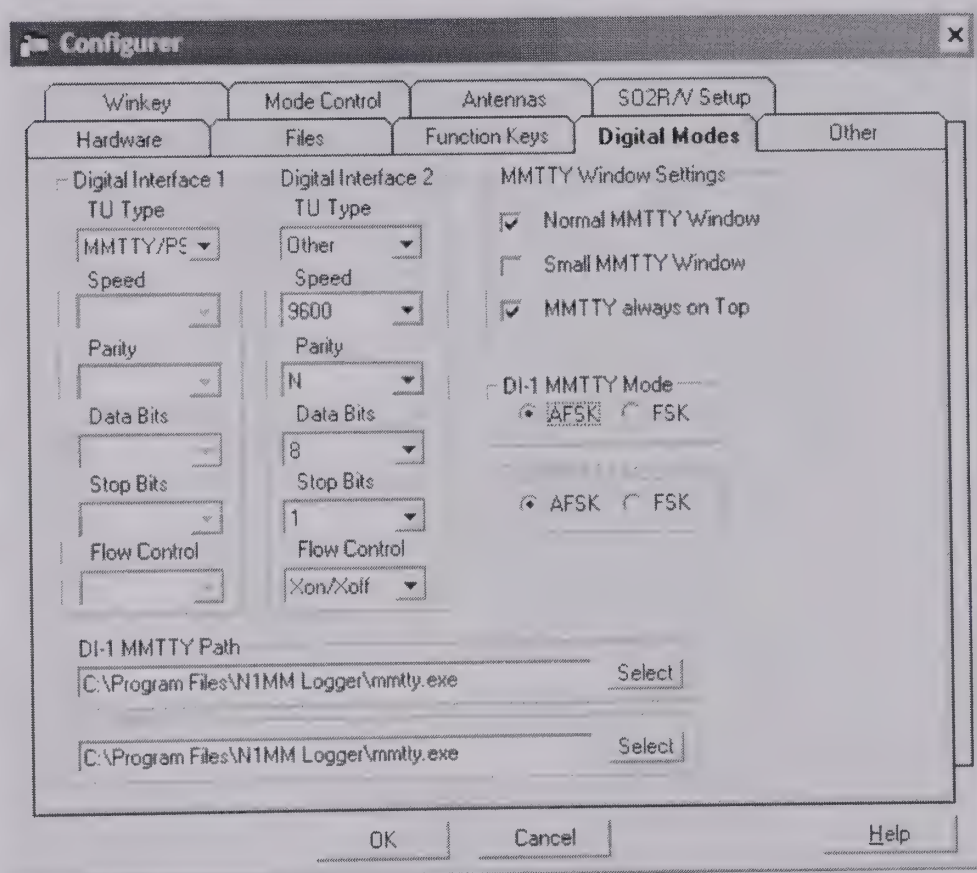
- When in 'Search and Pounce' mode the program will check the NET option, your signal will track any drift on the person you are calling and working.
- When in 'Running' mode the program will uncheck the NET option, you don't want to 'follow' the station which is calling you over the band.

23.13.5 MMTTY and SO2R

Some info about MMTTY soundcard setup and SO2R can be found in the [SO2R chapter](#).

23.14 Configure the Logger

23.14.1 Configure the TNC/ MMTTY



- Start the N1MM Logger application.
- On the Logger Main Window do a 'Config> Configure Ports, Telnet Address, Other'
- Select the Digital Modes tab.
 - ♦ MMTTY or Other is your choices. If you select Other make sure you set all of your settings for the TNC.

23.15 Steps to set up your TNC

1. In Digital Setup
 - ♦ a. Choose Other for Interface
 - ♦ b. Set other parameters accordingly (Example settings: Com 4,9600,8,N,1 RST-Xon)
 - ♦ c. Save the configuration
2. Load the Digital Interface from the window menu.
3. Create your Abort macro (This should be in the upper left corner) by right clicking on it. This will open up the RTTY setup area. Click on the same macro and enter what ever key sequence you need to abort transmission and save the macro.
Example PK-232: {CTRL-C}R{ENTER} and save the macro.

4. You should be ready to copy RTTY make sure your interface is set to copy 45 baud and 170 shift. You can configure a macro key to change this or you can type the key sequence needed in the transmit window and it will get sent to the TNC.

That should be it. You will need to add the CTRL keys that turn on and off the TNC

Example CQ macro for the PK-232: X{ENTER} CQ CQ CQ TEST DE {MYCALL} {MYCALL} K {CTRL-D}

23.16 Make a RTTY transmission

- We need to make room for a new RTTY screen so for now minimize the Logger Telnet/Packet window.
- Now select "Window | Digital Interface" and you will see the Digital interface screen below. The Digital Interface screen can be positioned and resized on your monitor as desired.
- When MMTTY is chosen two extra windows will appear: the MMTTY Engine window (how it will appear depends on the settings in the Configurer) and the Digital Interface window. If an external TNC is used only the Digital Interface window as shown above is opened.
- Left clicking on a call will grab the callsign. Right clicking on the RX and TX windows will show a menu.
- Pressing Insert will Grab the highlighted call and sends Hiscall followed by the Exchange button. If the digital Interface is not loaded it works normally.
- Double clicking on a callsign in the callsign box from the Digital interface sends that call to the Entry window.
- A callsign is automatically highlighted if recognized by the program. For that to happen it needs to have a space before and a space after the callsign. If the first thing on a new line in the digital interface window is a valid callsign, it is not highlighted or added to the grab list.
- The red and green lines show roughly where the spectrum works the best. The Red line indicates center 1500 and the green lines show 2000 and 1000 Hz.

23.17 Name lookup

The program has the possibility to lookup the name from a station entered in the Callsign field. For this to happen the following has to be done.

- Import a callsign versus name text file
 - ◆ The famous 'Friend.ini' file used in the WF1B program can be directly imported
 - ◆ Also a text file can be imported.
 - ◇ Callsign Comma Name
 - ◇ Example: N1MM,Tom
 - ◆ See the import example below
- Select the menu item: 'Call History Lookup' under 'Config'
- Use the {NAME} macro to have the name sent.
 - ◆ Note: The name is looked up in the Call History table **after pressing the Spacebar!**

Example how to import the **Friend.ini** file from the WF1B program.

- ◆ Select 'File | Import | Import Call History
- ◆ Select your 'Friend.ini' file by changing 'Files of type:' to 'All Files (*.*)'. Otherwise only text files will be shown!
- ◆ Select the 'Open' button. The callsigns with names from the text file will be imported.
- ◆ NB. Importing info in this table will delete all it's contents. There is no merge option! So if there is information in it and you only want to add info, first export this info

- (Select 'File | Export | Export Call History) and merge the data outside the program with a Text editor like Notepad. After this import the new merged file 'Friend.ini' file.
- ♦ The program will show in the bottom pane of the Entry Window status information during importing and afterwards the number of imported callsigns

23.18 Outputting RX data to a text file

Outputting your RX data to a text file can be done in a couple ways.

- Possibility 1: Left click in the RX window and select output to Text File
- Possibility 2: Doing this in MMTTY is a bit tricky. Go to the directory MMTTY has been installed and load MMTTY in standalone mode. Click on File/Log RX and close the program. From now on every time you start MMTTY either via the logger or in standalone mode an output text file will be created and all your info will be stored in this text file. In the directory where MMTTY is located will be files that have names like 031103.txt . MMTTY creates a new file for each day. These files are a real safety feature as you then can go back through them for any info you missed or lost during a crash.

23.19 Other Features

- Pressing control while single clicking on a call will force the call into the Entry window.
- In ESM mode, don't simulate space bar, just set focus to the Entry Window.
- "-" are being stripped from exchange elements
- CQ Repeat time when using MMTTY counts from when stops sending. When using a TNC the timer still tracks from when the macro is sent as there is no way to tell when the TNC finishes sending.
- The {RX} macro string has a CR/LF at the end for easy recognition.
- When transmitting callsigns are not grabbed from the RX window.
- Linefeed character in incoming text are replaced with CR. This prevents the showing of Blocks in RX window.



To get auto-CQ to work correctly with a TNC set you repeat time to at least 9 or 10 seconds. It may need to be longer if you have a longer CQ macro. This will stop the TNC buffer from receiving the next string before it finishes sending the last one.



It is best to add the command that your TNC uses to clear the transmit buffer to the end of your Abort Macro. If not, the transmit buffer still holds the remaining characters that were left in the sent string and will get sent the next time the TNC sends.



When using a TNC turn off *Stop Sending CQ when Callsign changed* this is located in the configuration area under function keys. If not every time you stop an auto-CQ and you type a callsign in the box it will send the abort string to the TNC.

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TO THE EDITOR:
I am writing to you to inform you of the results of my research on the properties of the new material I have developed. The material has been found to have a number of interesting properties, including a high degree of stability and a unique ability to absorb light. I am currently working on a number of projects to further investigate these properties and to develop new applications for the material. I am very excited about the potential of this material and believe it will have a significant impact on the field of materials science.

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24 General PSK information

24.1 General info

On the radio make sure:

- Audio processing is off
 - ◆ Speech processing is off
 - ◆ Hi boost is off (Kenwood radios)
- Radio should be in USB mode
LSB is also possible but normally USB is used.
- Don't overrun your finals from the transceiver and/or amplifier
 - ◆ 50 percent duty cycle is mostly ok
 - ◆ See the Interfacing section of this help for urls and tips on interfacing.
- Using lower case letters instead of all caps, will increase speed and reduce TX time.
- Only 100 Hz is needed as channel separation.
- Example filter usage:
 - ◆ Available 2.4 Khz / 250 Hz /100 Hz filter bandwidths.
 - ◆ 2.4 Khz is used for **monitoring** the PSK area of band when in **search and pounce** mode.
 - ◆ 250 Hz and 100 Hz filter bandwidths are used when in **run** mode.

24.2 Common Digital Frequencies

Band	Digital Frequencies (kHz)
160 meter	
80 meter	3575 – 3585 / 3620 – 3640
40 meter	7060 – 7080
30 meter	10130 – 10145
20 meter	14065 – 14090
17 meter	18100 – 18110
15 meter	21060 – 21090
12 meter	24920 – 24930
10 meter	28110 – 28125

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24.3 Common PSK Frequencies

PSK31 activity starts from the bottom edge of the IARU RTTY bandplan, expanding upwards as activity increases.

PSK Frequency (kHz)	Remarks
1838.15	
3580.15	
7035.15	7080.15 in Region 2.
10142.15	WARC, no contesting
14070.15	
18100.15	WARC, no contesting
21080.15	
24920.15	WARC, no contesting
28120.15	

24.4 Popular PSK contests

Date	Contest	Remarks
Third Saturday of April	TARA PSK31 Contest – Spring Wakeup	Website
First weekend of September	Quick PSK63 Contest	Website
	Any more annual contests?	

25 PSK Support

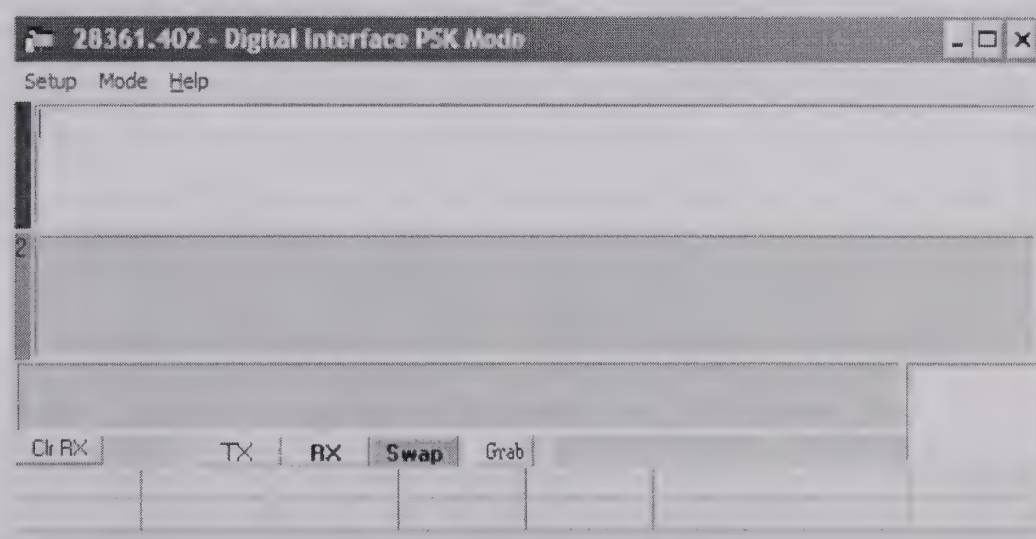


When having troubles please first check the Digital part of the Frequently Asked Questions.

25.1 The PSK Interface

The PSK interface is based on the PSKCore by Moe Wheatley, AE4JY. Supported are PSK31 and PSK63.

Only 2 digital dll files are required in the logger directory: PSKCore.dll and XMMT.ocx. Use the files which come with the program update.



This is the PSK Interface Window. It is broken into 5 separate areas which I will cover in order from the top.

The exact frequency is displayed in Digital Interface and PSK Engine Caption (rig(+/-)audio).

- **Receive Windows 1 and 2** – Both these windows operate in the same manner and both windows are able to grab callsigns and place them into the grab window that will be discussed later.

There is a colored pane on the left side of each receive window that serves 2 purposes

1. Identifies which window is currently the transmit window by coloring it Red.
2. By clicking on the colored pane you can pause input to the receive window to scroll back through the text using the scroll bars. When the window is paused the color of the pane will turn Yellow. To turn input to the window back on click in the pane again and everything that was to be printed to the window will now enter the window.

There are 2 ways of placing a callsign into the callsign window of the logger you can single click on a callsign and it will transfer over to the main logging window. (This sometimes does not work). Whenever a callsign is printed to a window followed by a space it will be sent to the callsign grab window for easy movement to the logging window by clicking the Grab button.

You can select any exchange info by single clicking on the sent info. This will transfer over to

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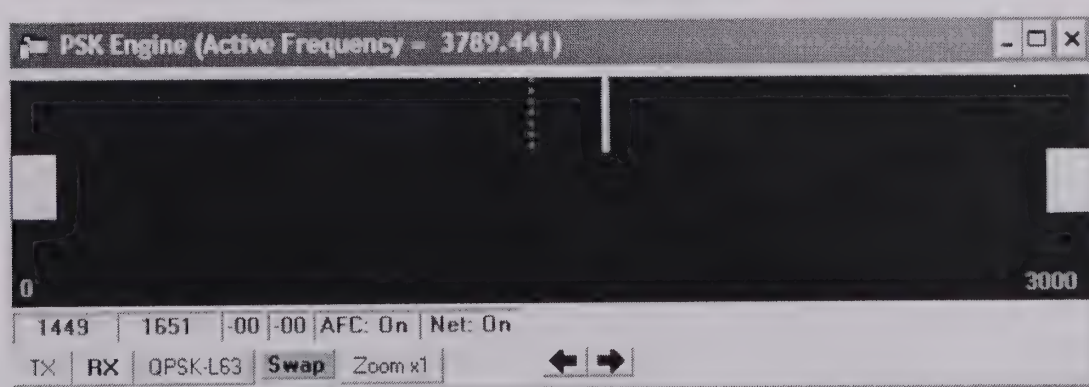
()

the logger item by item after the callsign is filled in.

Selecting another frequency for this window is done by *left* clicking in the Waterfall or Spectrum window. This is the window used for making qso's. If you select a callsign using your mouse it will be put into the callsign box on the Logger.

The two receive windows are resizable by middle splitter.

- **Transmit window** – This is a free form typing window. If you click on the TX button the cursor will be placed into this window and what ever is typed will be sent to your transmitter. The size is static and doesn't change size (2 lines).
- **Callsign Textbox and Grab** – When a callsign is encountered in one of the receive windows (followed by a space) it will be placed in this textbox and when you press the Grab button it will transfer the callsign over to the main logger window. The grab callsign window holds the last 4 callsigns seen in the RX window. The most current one is at the top and is highlighted. A right click in this box brings up a menu to clear list or selected callsign.
- **Clr RX** – This is a fast way to clear BOTH receive windows. If you want to clear individual windows right click over the window and a menu will pop up. The only time this menu will not appear is if you are in RUN MODE. Then when you right click on either of the 2 receive windows the F2 macro will be sent. You can still access the clear menu by right clicking in the TX window.
- **TX** – Places the interface into transmit, the transceiver is keyed, and places the cursor into the TX window for input. See the Radio Interfacing section for Parallel and Serial port info.
- **RX** – This places the interface back into receive mode after all the characters in the transmit buffer have been sent. To abort transmit immediately you may press the ESC key.
- **Swap** – This swaps the transmit control between the 2 RX windows. The indicator on the left of the window will turn RED if the window has transmit control and Green when not. This is good in contesting as while working one station. You can dial the second station in via the second RX window and after you finish the first contact just hit swap button and then call the other station.
- **Macro buttons** – These buttons on the Digital Interface are 24 extra Macros for preprogrammed messages. Configuring these macros is done in the Digital Interface window under 'Setup, Settings' or by right clicking on them which brings up the Digital setup screen. The macro buttons widths dynamically adjusts in relation to the width of interface.
- **Grab** – Transfer the selected callsign in the Callsign textbox to the callsign field on the main logger window. Once the callsign is filled what ever you click on next will fill the next box to have info entered in. The mouse is the only way to do this.



- **PSKCore.dll Window** – This window is used to interact with the PSK DLL and is called the Waterfall or Spectrum window. Across the top it shows the frequency of your radio. As you

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tune your radio this will update and the numbers will change. There are colored cursors which represent the 2 receive windows. The yellow cursor is for the 1st receive window and the red cursor is for the 2nd receive window. To change frequency for the 1st receive window you place your mouse pointer over a signal trace and click with your *left* mouse button. To change frequency for the 2nd receive window you place your mouse pointer over a trace and click with your *right* mouse button.

The exact frequency is displayed in Digital Interface and PSK Engine Caption (rig(+/-)audio).

- The remaining textboxes represent the receive frequency of both receive windows and also the transmit frequency. The IMD settings for each channel are listed and will change whenever idle signal (only signal no text) is received.
 - ♦ **RX1 Frq** – shows the receive frequency for the first receive window.
 - ♦ **RX2 Frq** – shows the receive frequency for the second receive window.
 - ♦ **TX1 Frq** – shows the transmit frequency for the first receive window.
 - ♦ **TX2 Frq** – shows the transmit frequency for the second receive window.
 - ♦ **AFC: On** – shows AFC on or off.
 - ♦ **NET: On** – shows NETon or off.
- **Control Panel** – the buttons on the control panel do the following:
 - ♦ **TX** – places the interface into transmit, the transceiver is keyed, and places the cursor into the TX window for input. See the Radio Interfacing section for Parallel and Serial port info.
 - ♦ **RX** – this places the interface back into receive mode after all the characters in the transmit buffer have been sent. To abort transmit immediately you may press the ESC key.
 - ♦ **BPSK31** – toggle mode between: BPSK31, QPSK-U31, QPSK-L31, BPSK63, QPSK-U63 and QPSK-L63.
 - ♦ **Swap** – this swaps the transmit control between the 2 RX windows. The indicator on the left of the window will turn RED if the window has transmit control and Green when not. This is good in contesting as while working one station. You can dial the second station in via the second RX window and after you finish the first contact just hit swap button and then call the other station.
 - ♦ **Zoom x1** – clicking this button will toggle the frequency display width (zoom function).
 - ♦ **Zoom x1** – 0 Hz – 3000 Hz
 - ♦ **Zoom x2** – 0 Hz – 1500 Hz
 - ♦ **Zoom x3** – 0 Hz – 1000 Hz
 - ♦ **Zoom x4** – 0 Hz – 750 Hz
 - ♦ **Left / Right Arrows** – spectrum search buttons

25.2 Keyboard Assignments

- **Alt-T** – Toggle TX/RX, the cursor will be set to the TX window of the active interface.
- **Alt-G** – Grab callsign.
- **Ctrl-Arrows** – When 2 radios are configured and 2 digital windows are open, pressing CTRL-ARROWS swaps from one active DI to the other. DI1 will follow radio1(bandmap A) DI2 will follow radio2 (bandmap B).

25.3 Insert key Assignments

Mode	Enter Sends	INSERT key or ; key does the following:
------	-------------	---

	<i>Message (ESM mode)</i>	
RUN and S&P	OFF	1. Grab Callsign from call list if callsign field empty otherwise use call in callsign field. 2. Prefilles Exchange Boxes 3. NO DUPE: Sends F5 (Hiscall) + F2 (Exchange) or DUPE: Sends Nothing 4. Places cursor in next exchange field (Example: Sect)
RUN	ON	1. Grab Callsign from call list if callsign field empty otherwise use call in callsign field. 2. Prefilles Exchange Boxes 3. NO DUPE: Sends F5 (Hiscall) + F2 (Exchange) or DUPE WorkDupes checked: Sends F5 (Hiscall) + F2 (Exchange) WorkDupes not checked:Sends F6(Dupe) 4. Places cursor in next exchange field (Example: Sect) 5. Highlights F8 button
S&P	ON	1. Grab Callsign from call list if callsign field empty otherwise use call in callsign field. 2. Prefilles Exchange Boxes 3. NO DUPE: Sends F4 (Mycall) or DUPE WorkDupes checked: Sends F5 (Hiscall) + F2 (Exchange) WorkDupes not checked:Sends F6(Dupe) 4. Once exchange entered INSERT sends F5-F2 ♦ Pressing INSERTagain will continue to send F5-F2 5. Places cursor in next exchange field (Example: Sect)

Pressing Insert or ; and the callsign field is not empty, only F5+F2 text will be send. If the callsign field is empty it will also grab the callsign from the callist.

Upon grabbing a callsign from the callist that callsign gets deleted from the grab list.

If the callsign in the callsign field in the Entry window is equal to the callsign in the received text, the call in the Entry window does not get placed into the call list.

25.4 Mouse Assignments

- **Left mouse key clicking**

- ♦ **Single clicking** on a callsign grabs it and places it in the Callsign field on the Entry Window dialog.
- ♦ **Single clicking** on exchange info etc. grabs it and places it in the Exchange field on the Entry Window dialog.

Date		Description		Amount	
1900	Jan 1	Balance		100.00	
	Feb 1	Received from A. B.		50.00	
	Mar 1	Received from C. D.		25.00	
	Apr 1	Received from E. F.		75.00	
	May 1	Received from G. H.		100.00	
	Jun 1	Received from I. J.		150.00	
	Jul 1	Received from K. L.		200.00	
	Aug 1	Received from M. N.		250.00	
	Sep 1	Received from O. P.		300.00	
	Oct 1	Received from Q. R.		350.00	
	Nov 1	Received from S. T.		400.00	
	Dec 1	Received from U. V.		450.00	
	Total			2000.00	

Date		Description		Amount	
1900	Jan 1	Balance		100.00	
	Feb 1	Received from A. B.		50.00	
	Mar 1	Received from C. D.		25.00	
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	May 1	Received from G. H.		100.00	
	Jun 1	Received from I. J.		150.00	
	Jul 1	Received from K. L.		200.00	
	Aug 1	Received from M. N.		250.00	
	Sep 1	Received from O. P.		300.00	
	Oct 1	Received from Q. R.		350.00	
	Nov 1	Received from S. T.		400.00	
	Dec 1	Received from U. V.		450.00	
	Total			2000.00	

Date		Description		Amount	
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	Oct 1	Received from Q. R.		350.00	
	Nov 1	Received from S. T.		400.00	
	Dec 1	Received from U. V.		450.00	
	Total			2000.00	

◊ NB. The callsign field must be filled first!

- **Right mouse key clicking**

- ◊ **Clear RX** – Clear the Receive window
- ◊ **Clear TX** – Clear the transmit window
- ◊ **Output CH1 to Text File** – Output the received text from channel 1(receive window 1) to a text file named PSKCH1.txt
- ◊ **Output CH2 to Text File** – Output the received text from channel 2 (receive window 2) to a text file named PSKCH2.txt
- ◊ **Help** – Show the help file for this window

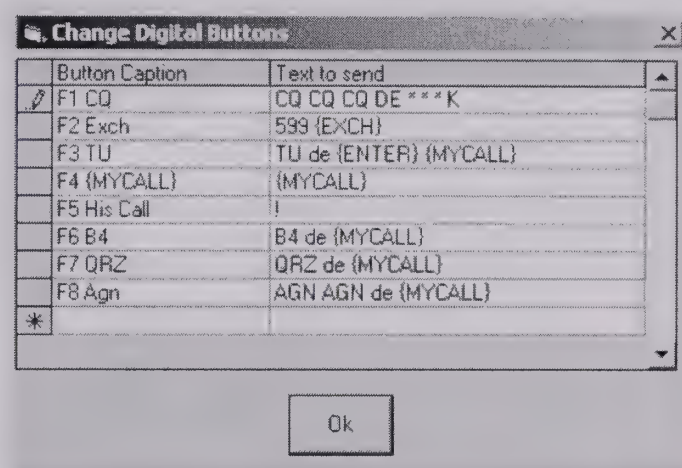
- **Right mouse key clicking in GRAB window**

- ◊ gives a menu:
 - ◊ **Clear List** – Clear the entire grab window
 - ◊ **Clear Selected Call** – Clear the selected call in the grab window

25.5 Configuring the Entry window function keys

- The Entry window supports 2 times 8 function keys, a total of 16 function keys.
- These function keys which support 'Running' mode and 'Search & Pounce' mode.
- These function keys use the same macros for PSK and RTTY.
- The function keys can be changed under:
 - ◊ Config menu
 - ◊ Change Packet/CW/SSB/Digital Message Buttons
 - ◊ Change Digital Buttons.

Below a proposal how to define the buttons:



Button Caption	Text to send
&CQ	CQ CQ CQ DE *** K
&Exchange	5NN #
&My Call	*
&His Call	!
&TU	TU DE *
RY	ryryryryry

25.6 Macro keys on the PSK interface

There are 24 extra macro keys on the PSK interface. A right click on the macro buttons brings up the Digital setup screen where the macros can be configured.

These extra 24 function keys support all the macros but don't support 'Running' mode and 'Search & Pounce' mode.

Include in your macros the control keys needed to turn on the TNC and switch to RX...

Macro key substitution is supported by the buttons in the PSK window and the function keys on the Entry window.

The macros which can be used and some examples can be found on the [macros page](#).

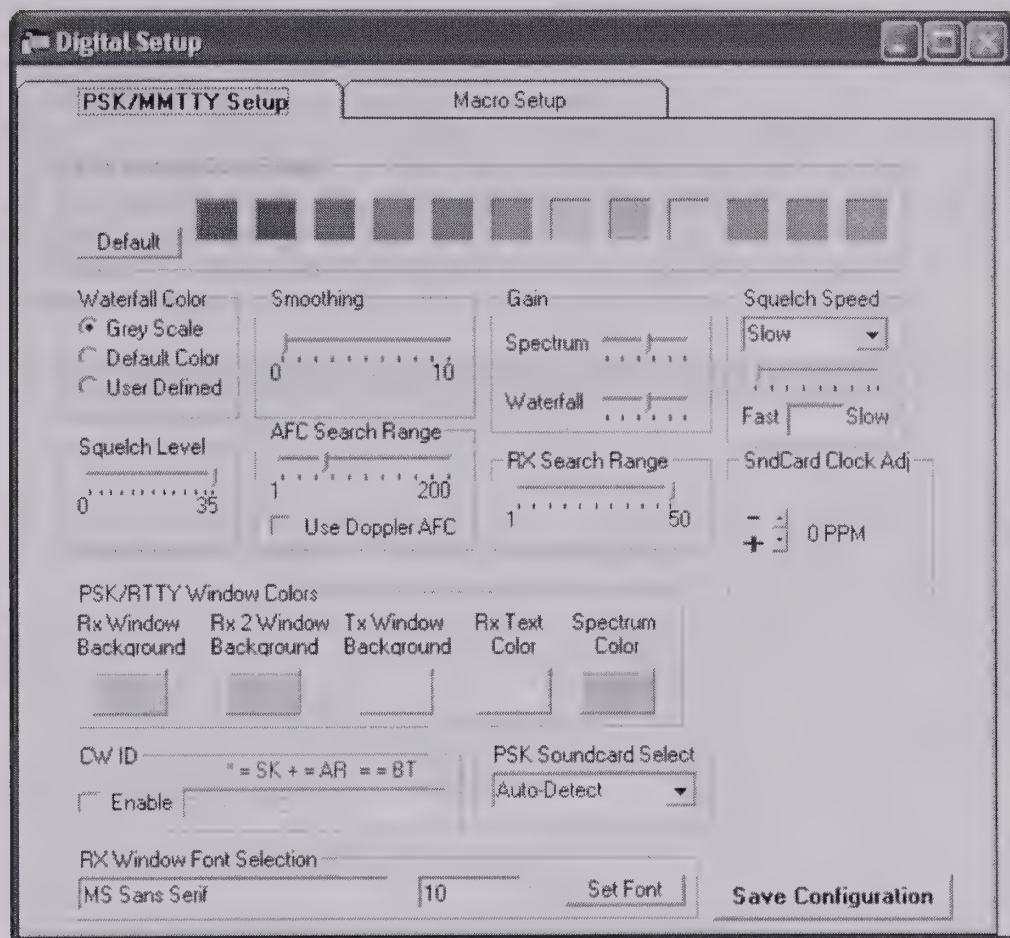
25.7 Setup Menu Selections

25.7.1 Selection: PSK

- **Setup**
 - ◆ **Settings** – setting up the digital interface, see chapter below (Setting up the Digital interface)
 - ◆ **SoundCard**
 - ◇ **Receive Mixer** – shows the Record control mixer dialog from the Windows operating system
 - ◇ **Transmit Mixer** – shows the Play control mixer dialog from the Windows operating system
 - ◆ **AFC On/Off with CQ** – If set then the AFC will turn on with CQ message or TU messages.
 - ◆ **NET On/Off with Run Change** – Option to turn Net function on in S&P and off in Running mode.
 - ◆ **Auto Update TRX Offset w/Mark Freq.** – Option to auto update the transceiver offset whenever the Mark frequency changes.
- **Mode**
 - ◆ **RTTY** – select RTTY as mode
 - ◆ **PSK** – select PSK as mode
- **Help** – shows help file

25.7.2 Setting up the Digital interface

When selecting 'Settings' in the menu a screen like the one below will be shown.



- **PSK Waterfall Color palette** – The 12 colors that make up the color palette can be changed to represent whatever colors you would like. The colors go from the weakest signal on the top to the strongest signal on the bottom. There are two pallet settings (use dropdown box to select). The **Default** button changes the colors back to the default colors. This window becomes active when User Defined is selected in the Waterfall Color Box Below.
- **Waterfall Color** – Select between
 - ◆ Grey Scale
 - ◆ Default Color
 - ◆ User Defined
- **Smoothing** – Sets the amount of smoothing
- **Gain** – Sets the amount of signal gain for the Spectrum/Waterfall
- **Squelch Speed** – This is how quick your squelch filters. Select between Slow, Fast and Variable. When using variable select a value between 0 and 200.
- **Squelch Level** – This level represents the noise level as to where you would like the interface to start copying signals at. 0 indicates an open squelch and everything will be decoded.
- **AFC Search Range** – This is how far in Hz the interface will track a drifting signal.
- **Use Doppler AFC** – Toggle doppler AFC.
- **RX Search Range** – This is how far in Hz the interface will look to lock onto a signal when you click on a signal in the waterfall or spectrum.
- **RX/TX Font Size** – This is the font size for the receive windows and the transmit window. You can select from 8pt, 10pt, or 12pt.



4. The fourth part of the document discusses the implications of the study and the conclusions drawn from the results. It highlights the significance of the findings and their potential impact on the field of study.

5. The fifth part of the document provides a summary of the key points discussed throughout the document. It reiterates the main findings and the conclusions drawn from the study.

6. The sixth part of the document includes a list of references, citing the various sources used in the study. It provides a comprehensive overview of the literature related to the topic.

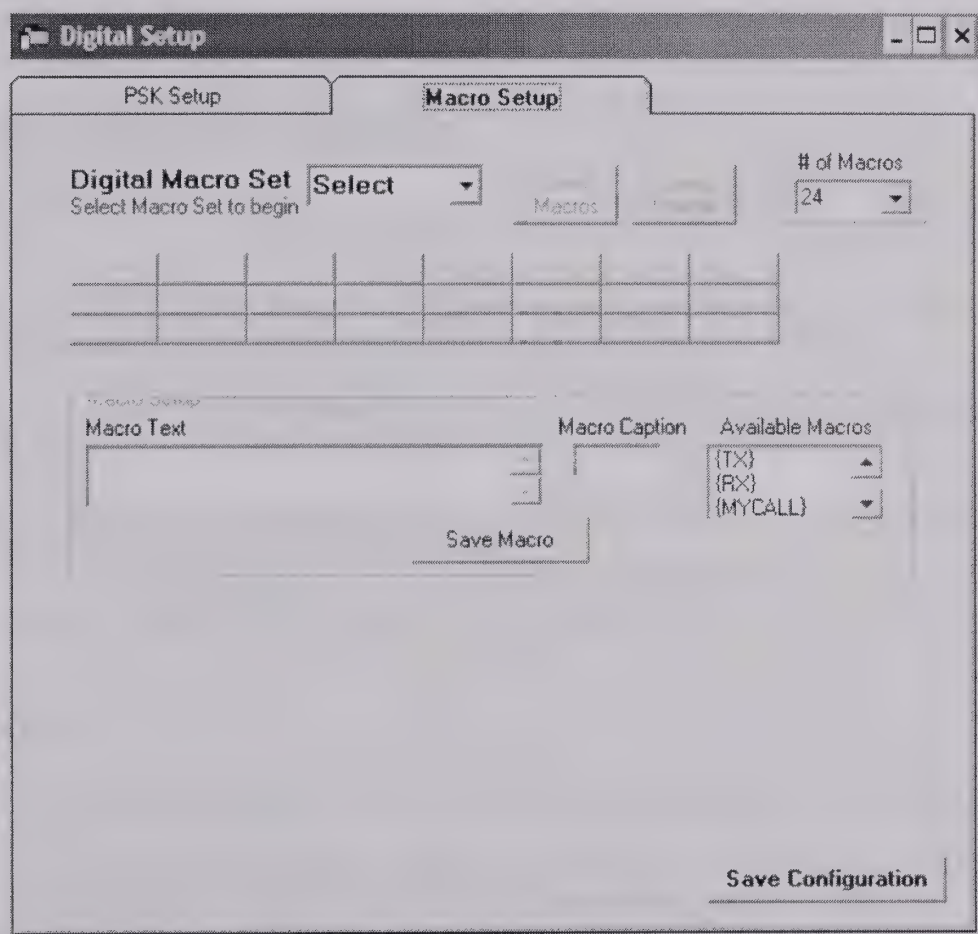
7. The seventh part of the document contains a list of appendices, providing additional information and data that support the findings of the study. It includes detailed descriptions of the experimental setup and the procedures followed during the study.

8. The eighth part of the document includes a list of figures, providing a visual representation of the data collected during the study. It includes several graphs and charts that illustrate the findings of the research.

9. The ninth part of the document includes a list of tables, providing a detailed overview of the data collected during the study. It includes several tables that present the results of the study in a clear and concise manner.

10. The tenth part of the document includes a list of footnotes, providing additional information and references that are not included in the main text. It includes several footnotes that provide further details about the study and its findings.

- **PSK/RTTY Window Colors** – The PSK and RTTY receive And the transmit window background colors can be changed here.
- **SndCard Clock Adj** – Soundcard Clock adjustment
- **CW ID** – If this check box is checked the interface will send the string entered in the field behind it (Enter CWID String). This string will sent after every transmission.
- **PSK Soundcard Select** – Select the soundcard to be used when having more than one soundcard in your computer.
- **RX Window Font Selection** – Change the font ans size. Press the 'Set Font' button to get the selection window.



- **Digital Macro Set** – Update the macros definitions and button texts.
 - ◆ Select an interface from the dropdown menu. Choices are: PSK, MMTTY 1, Other 1, MMTTY 2, Other 2
 - ◆ Click on the macro button which has to be updated
 - ◆ Type the macro text in the field 'Macro Text'
 - ◆ Type the text on the button in the field 'Macro Caption'
 - ◆ Click on the '**Save Macro**' button when satisfied
 - ◆ The selected macro caption text will be shown on the button
 - ◆ Available macros are shown in the box 'Available Macros'. First select a macro button to see them all.
 - ◆ Below the CW ID check box are two extra Macro buttons which have to be configured as **TX/RX** buttons. Enter what control codes are needed to turn on and off your TNC. *Only visible when Other1 or Other2 is selected.*
- **Load Macros** – Load saved macros from a saved file (*.mc) to the Digital Macro Set.



- **Save Macros** – Save macros from the Digital Macro Set to a file (*.mc).
- **# of Macros** – select the number of macro buttons. You can select 0, 8, 16 or 24.
- **Macro Text** – Area where to create the macro text for the selected macro.
- **Macro caption** – Macro caption from the button.
- **Available Macros** – shows the available macros. Clicking on a macro will transfer it to the macro text area.
- **Save Configuration** – save the made configuration changes. If the changes made should not be saved select the cross in the upper right corner to close the window.

Any changes made in the setup form must be saved by clicking the Save Configuration Button located on the bottom of the form. Any changes made and saved will be changed as soon as the setup area closes.

25.8 Make a PSK transmission

We need to make room for the Digital Interface so for now minimize the Logger Telnet/Packet window.

Now select "Window | Digital Interface" and you will see the Digital interface screen below. The Digital Interface screen can be positioned and resized on your monitor as desired.

Left clicking on a call will grab the callsign. Right clicking on the RX and TX window will pop a menu (S&P mode) or send the Exchange function key in Running mode..

Pressing Insert will Grab the highlighted call and sends Hiscall followed by the Exchange button. If the digital Interface is not loaded it works normally.

Double clicking on a callsign in the callsign box from the Digital interface sends that call to the Entry window.

25.9 Other

- The Radio Frequency display on the Waterfall and Spectrum display follows the active Radio Frequency
- The last PSK mode used is remembered, so the next time the last used mode is selected.
- Getting (PSK) object errors during program start or starting PSK?
You will likely have to run `c:\windows\system\regsvr32 /u PSKCore.dll`, followed by `c:\windows\system\regsvr32 PSKCore.dll` to register the PSKCore.dll. Run `upgrade.bat` which is located in the program install directory and these commands will be executed.
- When transmitting callsigns are not grabbed from the RX window.

26 Before the Contest

- [Call History Lookup](#)
- [Importing and exporting message Function keys](#)
- [Getting ready for CQWW \(and other contests\)](#)
- [How to record Wav files for the Function keys used in SSB contests.](#)

26.1 Call History Lookup

In some contests part of the exchange is known if the callsign is known. So it would be easy to have this information shown (or already prefilled) if the callsign is entered. Lookup examples are names (Friends file in RTTY contests), gridsquares for VHF contests, ages in All Asian dx contests etc. In all cases the possibility to use this lookup function means changes in the contest class by the programmer. See the setup for each contest if Call History Lookup is supported.

Call history is implemented in a separate table in each database. This table is called CallHist. The entry window menu options for Call History Lookup are:

• **Config | Call History Lookup**

- ◆ Toggle to let the contest use the Call History table. In this table station information like Name, GridSquare, Section, State, Age etc. can be stored and retrieved during the contest. This setting will cost some performance because the program has to lookup information when leaving the callsign field from this table in the database. This table has to be filled with 'Import Call History' and the contest has to be suited for it before it can be used! Provision has been made in the table for additional fields: State, Birthdate, CK. These are in the table, but do not have any effect on logging.

• **File | Import | Import Import Call History**

- ◆ Some contests use exchanges which are very often the same the next you work a station. This table can be used by some of the contests to show information in one of the exchange fields or fill a macro when a callsign is entered. This information can be Name (RTTY friends file), Grid square, age, etc. For more information see the [VHF and up contesting chapter](#) (VHFREG1 is a VHF contest which uses this table to fill the grid square). When importing a new file with information the contents of the Callhist table will be deleted first. So export first if you want to keep the content!

• **File | Import | Export Call History**

- ◆ Exports the information in the Call History table. This table can only be filled by using 'Import Call History'.

Note: Currently, there is no way to export from a contest log to the call history table yet, filling the callhist table has to be done by importing a text file.

26.1.1 Creating a locator lookup file for importing in CallHist table

The import function expects a text file with on each line the information as mentioned below in the order below. The callsign is needed, all other fields are optional. Each field has to be separated by a comma or an equal sign. The equal sign is introduced so a friends.ini file used by many RTTY contest programs can be used without converting.

This is the needed order: **Callsign, Name, Grid1, Grid2, Section, State, CK, Birthdate**

The delimiter between the fields may be a comma, a semicolon, a space or an equal sign. The delimiters may be mixed in the file but not within one line!

A missing CK must be entered as -1, since any check from 00 through 99 is valid (ARRL Sweepstakes).

Birthdate is expected to be used for the AA contest to compute the other station's age. This will obviously be a little tricky to deal with.

Be sure to put birthdates in a universal format, e.g. 1980-12-31

Example call history file:

Only name needed for contest	Grid Square needed	State needed
N1MM,Tom	PI4GN,,JO33II,JO33jf, N1MM,Tom,,,,CT	
N2AMG;Rick	PA5DD=Uffe=JO22ic=K3ZO;Fred;,,,MD	
WW3S=Jamie	PA1T,Timon,JO33jf,	

Or

```
K1CC,RICH,FN31,FN32,,,-1,1900-01-01
KG1D,LES,,,,,-1,1900-01-01
N1MM,TOM,FN31,,CT,CT,61,1949-10-01
# this is comments (line starts with a #)
W1RM,PETE,,,,,-1,1900-01-01
```

- The *callsign* is needed and may not be omitted
- When the Grid square is needed and the name is not known it does not have to be filled. Don't forget the delimiter! A second grid square may be entered at the position of Locator2. Locator1 should always be filled, Locator2 is optional.
- Example 'State needed' gives many delimiters. Depending on the contest class an entered name will be used or not.
- There is no maximum for the number of lines. For VHF contesting we normally import a file with 50,000 lines and there is no noticeable delay in searching. There is a gridsquare file available in the Other Files menu from the N1MM website which will be accepted as input. It was implemented by PA1M for VHF contests.
- Pressing the **SPACE** bar when the cursor is in the *callsign field* will look for a callsign in the Callhist lookup table. Tab does not work!
- It is possible to add comments in the Call History file, use a # on the first position of the line

Tip 1 by Kenny, K2KW

For those of us with limited dB skills, there is a relatively easy way in Excel to get the data into the right format. Start off by parsing out the data from an old log into different columns. (In Excel, there is a Text to Columns conversion, if your data starts off in one line). Once you get the basic data extracted and parsed, insert additional columns for all the fields as required. Then insert a field for every comma you need, resulting in 8 data fields, separated by 7 fields with single commas in them. By now the data should look exactly as you need it, but in 15 different columns. Then in yet another field, use the Excel Concatenate function: " =concatenate(A1, B1, C1, etc)" You will list every column. This function will then concatenate all the data into one long string, and then just copy and paste all the columns (you can do it all at once) with data into an ASCII file. I had just done this at work last week and it works great. Sounds complicated, but it's quite easy.

Tip 2 by Tom, N1MM

In the log window, select all & Copy to generic print string can speed this approach. The data in the clipboard can then be pasted into Excel.

26.2 Importing and exporting message Function keys

The CW messages and SSB wav file messages are not contest-specific, but rather are portable between contests.

When you get the message keys set up for a particular contest do the following: **File > Export > Export Message Keys to File > CW Keys (for example)** This saves the message key setup as a Macro file. You can recall that set of function keys any time you like by importing them: **File > Import > Import Message Keys from File > (select file)**

This way you can make and reuse different files for all the different contests. Just import the message keys for the contest de jour.

26.3 Getting ready for CQWW (and other contests)

Top testers have a checklist of things to do prior to a major contest. Please consider adding these logging program related items to your list:

1. Make a few dozen test contacts in the contest.
Make 12 in run mode and 12 in s&p mode. Press the CQ function key to set yourself to run mode. If it does not, make sure the Configurer/Function Keys tab matches your button setup.
2. If you plan to use any of the following features, make sure they work as you expect:
 - Enter sends messages
 - Autocompletion
 - Multi-op
 - Send leading zeros
 - Send corrected call
 - Radio interface
 - Packet connection
 - Telnet connection
3. Get the latest CTY.DAT and install & test it. The About window will tell you the version you are using.
4. Get the latest MASTER.DTA and put it in your install directory. The Check window at startup will tell you the version you are using.
5. Prepare your SSB wav files, or CQ/RTTY messages. Test them.
6. Make sure that RF does not get into your cabling.
7. Make sure you have selected the correct options in the contest setup dialog. For CQWW your exchange field should contain only your zone.
Read the contest rules so you know how to setup the contest, Function keys etc.
8. Run Cabrillo output and check for proper generation.
9. Sync your time with an internet time standard, if possible. I use a freeware program called Dimension 4. Resync periodically during the contest.
10. Review "Key Assignments" in the help. Print it out or print out a keyboard template which can be found on the N1MM website, select in the left menu: Other Files.

73, & GL in the contests

2. It then goes on to describe the various methods used to collect and analyze data.

3. The next section details the results of the study, showing a clear trend towards increased efficiency.

4. Finally, the document concludes with a series of recommendations for future research and implementation.

5. The overall findings suggest that the proposed system is a viable solution for the problem at hand.

6. The data collected over the course of the study supports the initial hypothesis.

7. The results indicate that the system can be scaled up for larger organizations.

8. The study also identified several areas for improvement in the current model.

9. The authors believe that these findings will be valuable to other researchers in the field.

10. The document provides a comprehensive overview of the project and its outcomes.

11. The study was conducted over a period of six months, during which time a large amount of data was collected.

12. The results of the study are presented in a clear and concise manner, making it easy to understand.

13. The document is well-organized and easy to read, providing a wealth of information.

14. The study was conducted in a rigorous and systematic manner, ensuring the reliability of the results.

15. The findings of the study are discussed in detail, providing a thorough understanding of the results.

16. The document is a valuable resource for anyone interested in the topic of data analysis.

17. The study was conducted in a professional and ethical manner, following all relevant guidelines.

18. The document provides a detailed account of the study, from its inception to its conclusion.

26.4 How to record Wav files for the Function keys used in SSB contests.

Here is what I recommend by Tom, N1MM.

1. Use Cool Edit. I use Cool Edit 96, but there are later versions.
2. Record ****all**** of the messages on one wav file. Make sure you have a quiet room. Record each message at least TWICE. Sound excited!
3. Leave 5 seconds of empty space at the beginning of the recording.
4. Record.
5. Save the recording as "Raw CQ" or some such.
6. Use Cool's noise reduction feature. Mark the blank part of the wav, and set the noise reduction, then noise reduce the whole wav file.
7. Save the recording as "Noise reduced CQ".
8. Perform bass reduction, treble boost or whatever other transformations and save them as you do them.
9. You can use compression, but I don't recommend it.
10. Split the wav file into the separate messages, saving the best of the two recorded.

Recording ALL your messages in one recording and afterwards splitting them up using a wav editor will avoid the pops at the start and end of recording, as well as making it more likely that all the messages will be recorded at the same volume level and sound the same.

Don't ask why you need Cool Edit 2000. Just get it.

Here is what is recommend by Uffe, PA5DD

Another nice program is Audacity and this one is freeware. This program can scale the peak amplitude of all the audio files to be the same.

In order to set the audio level out of the computer, I recorded 10secs of a 800Hz tone. Scaled the amplitude (peak = mean) and assigned it to F7. I call it cal.wav.

I turn off the speech processor, and turn up the computer volume just until full output is reached.

Although not guarenteed, the peak amplitude of my audio files should now be in the dynamic range of my transceiver. Afterwards I turn on the processor on again.

P.S. OK then, I admit to sometimes turning the volume just 1 or 2 ticks higher to be on the safe side.....

Place the Wav files you have made in the *N1MM Logger*\wav directory and call them cq.wav n1mm.wav 59.wav etc. Just what you like!

In the program I specify them as

CQ	wav\cq.wav
N1MM	wav\n1mm.wav
Exch	wav\59.wav

NOTE THERE IS NO LEADING \ !

This notation means to start looking for the directory at the current directory (N1MM Logger or whatever).

When making also all letters and number wav files these have to be placed in the *N1MM Logger*\letters directory.

Examples:

1.wav

2.wav etc

? = query.wav

/ = stroke.wav

Below some extra information from Mario, S56A, N1YU

- I recorded CQ CONTEST FROM S56A S56A CONTEST, S56A, THANKS S56A, THANKS 599 15 in one session. That should cover most of my automatic SSB transmissions.
- I used 20 dB MIC preamp in SoundBlaster and spoke few words before the real recording in order to settle ALC. I used modest 8 bit 11K sampling.
- Graphic equalizer was later used with 125 Hz cutoff, flat settings on 250 and 500 Hz, +7 dB on 1 kHz, +14 dB on 2 kHz and – 18 dB on 4 kHz.
- Output was checked for flat topping and later normalized. This is NOT Hi-fi sound but HF SSB optimized audio.

26.5

27 During The Contest

27.1 The scenario

During a contest you should know all the basic functions of the program like changing frequency, band and mode. The program should have no secrets anymore. Your only concern is making qso's, working multipliers, having a good strategy. The manual is lying next to you but you don't need it, the key assignments are printed and are hanging within visual range so when you might forget you can take a peek.

You know there are no bugs in your version because you tested it, made test qso's. No concern during the contest. You have reported bugs long before the contest and of course these are solved long before the contest starts.

Long before the contest you have read the Key Assignments, Basic Functions, Setting up the Program, Entry Window and the Quick Tour to have basic program information. So questions have been asked and answered, the manual has been read several times.

You have made a clean database, recorded your wav files and programmed your cw messages, etc. weeks before the contest.

Nothing can happen to you, you have prepared!

27.2 Bugs

When a bug is found please report it right after the contest or even during the contest if it is a showstopper. Tom participates in many contests but he also the mail during contests and can give hints or sometimes bring out a new version. In addition to Tom there are many other hams available who can help solving problems, giving hints etc.

Rather than writing down problems during the contest try the following:

1. Use alt-N to write a note that will be attached as a comment to the QSO.
 1. E.g. "This call not in master.dta."
2. At the end of the contest, use the menu option View/Notes to see all the notes you have made.

The fourth part of the document concludes by summarizing the key points discussed and reiterating the importance of the accounting system in the organization's success. It also provides a brief overview of the next steps in the implementation of the system.

The fifth part of the document provides a detailed description of the accounting system's components and how they interact. It includes a diagram of the system's architecture and a list of the system's features and capabilities.

The sixth part of the document discusses the system's security and data protection measures. It describes the various safeguards in place to ensure the confidentiality and integrity of the data and to prevent unauthorized access or modification.

The seventh part of the document provides a detailed description of the system's user interface and how it is used by the organization's staff. It includes a list of the system's functions and a description of the user's role in the system.

The eighth part of the document discusses the system's maintenance and support requirements. It describes the various tasks that must be performed to ensure the system's continued operation and the availability of technical support when needed.

The ninth part of the document provides a detailed description of the system's performance and how it compares to other systems. It includes a list of the system's performance metrics and a comparison of the system's performance to that of other systems in the market.

The tenth part of the document concludes by summarizing the key points discussed and reiterating the importance of the accounting system in the organization's success. It also provides a brief overview of the next steps in the implementation of the system.

28 After the contest..

When the contest is over we are not ready. The points have to be calculated and the log has to be submitted.

- [Post-Contest QSO Entry](#)
- [Change All Contact Timestamps by a Fixed Amount](#)
- [How to create Cabrillo files](#)
- [Submitting E-mail logs for ARRL Contests](#)
- [ARRL Contest Robot](#)
- [Printing QSL cards](#)
- [Importing a contest into your general logging program](#)

28.1 Post-Contest QSO Entry

Ever hand-log part of a contest, and have to enter the QSOs after the contest? Here is a utility that will allow rapid QSO entry, and allow you to easily set the date and time via interpolation. (Remember, exact QSO times are not critical for contest sponsors, just within reason) This feature is most useful if you have a bunch of QSOs to enter. If one or two QSOs, might as well do the old way...

Warning: Make a copy of your log, and only use the copy for this process! You cannot (automatically) reverse the time interpolation process below. You have been warned!

28.1.1 Enter QSOs

Suggested way to enter QSOs:

- Type frequency/band, hit enter
- Continue entering calls and exchange as long as they are on the same band (type as fast as you can and don't worry about the times, they will be fixed later)
- If band changes, type new frequency/band, and finish typing calls on that band

Example:

```
7000 {enter}  
W1ABC 35 CT {enter}  
W2XYZ 55 MA {enter}  
14000 {enter}  
W5JOE 42 TX {enter}  
etc.
```

28.1.2 Change time/date

To change time/date of a series of the hand-entered QSOs:

- Put mouse over the first QSO you want to change the time/date and single click to highlight the row
- With mouse over log window, right click
- Select **"Set Start Interpolation Time Row"**
- Enter desired start time, and hit OK

2. It is essential to ensure that all data is entered correctly and that the system is updated regularly.

3. The second part of the document outlines the procedures for handling customer inquiries.

4. Customers should be greeted promptly and their concerns addressed in a professional and courteous manner.

5. The third part of the document describes the process for resolving disputes and handling complaints.

6. It is important to maintain a high level of transparency and communication throughout the process.

7. The fourth part of the document provides information on the company's policies and procedures.

8. This section includes details on the company's commitment to quality and customer satisfaction.

9. The fifth part of the document discusses the company's financial performance and future goals.

10. This section includes a summary of the company's revenue and expenses.

11. The sixth part of the document provides a conclusion and a call to action.

12. We encourage all stakeholders to work together to achieve our common goals and objectives.

13. Thank you for your attention and support.

- Put mouse over the last QSO you want to change the time/date and single click to highlight the row
- With mouse over log window, right click
- Select **"Set Stop Interpolation Time Row"**
- Enter desired start time, and hit OK



Notes: The utility will average out the time for each QSO in the group of QSOs you have selected. Remember there is no "undo" feature, so make a copy of your log before using this utility. If you have a large gap in time in your hand log, enter the first batch of QSOs, and do the interpolation. Then enter the second group of QSOs and do a 2nd interpolation (by breaking up the interpolation, you can better accommodate gaps in the log).

28.2 Change All Contact Timestamps by a Fixed Amount

This will fix a log where all QSOs are off by a common amount of time

- Put mouse over log window and right click
- Select "Change All Contest Timestamps by a Fixed Amount"
- Dialog box will open, and enter offset time (+ or -) in minutes

Date will automatically adjust if the offset rolls a QSO into a different day. Time is entered in minutes, and can be negative time to go backwards. (You might need a calculator to determine the offset minutes if your date was off by many days, months, or years)



Note: While you can easily adjust for a mistake by doing another offset, it is advisable that you backup your log before doing any changes.

28.3 How to create Cabrillo files

Cabrillo is being used by the major contests.

- Select File / Export / Export Cabrillo to file...
 - ◆ This will create a Cabrillo file for contest log submission.
 - ◆ Make sure that the Station information Tools/Edit Station Data) and overall contest information (File/Choose Contest) is correct before creating this file.
 - ◆ It is also a good idea to rescore the contest before submitting.
 - ◆ It will create a Cabrillo file named <yourcall>.LOG in the N1MM logger program directory.

In the chapter Technical Information there is some more information about files the program can make on your command. (Cabrillo, summary sheet, log, ADIF etc.)

28.4 How to print the log

Well, there is no print function 'as such', and I don't think many of us print logs. Paper? Ouch! ;o) Go to file > export, where you see a broad variety of choices. Make an ADIF file for importing in another program, to import the contest QSOs in the general DXlog. It is possible to make a summary sheet, save the file, open it in WordPad and then print it. CSV (comma separated value) format is also an option.

28.5 How to get statistics

The program does not have many statistics by itself. Below some possibilities.

- Export to ADIF and import in a general DX log. Use the statistics from that program
- Use the Cabrillo output format, needed by most (if not all) contest sponsors.
- Use the brilliant I8NHJ's tool (also free!) to analyse the log afterwards.
 - ♦ More info about this tool is given in the chapter '[Additional Software](#)'

28.6 Submitting E-mail logs for ARRL/CQ contests

ARRL and CQ needs two files for each contest.

- The Cabrillo log file named: <yourcall>.LOG Example: N1MM.log
 - ♦ File, Export, Export Cabrillo to file...
- The summery sheet: <yourcall>.SUM Example: N1MM.sum
 - ♦ File, Export, Print Score Summary to File

Submitting the files

1. Attach the two (2) Yourcall.* files. DO NOT send them as text but as **attached files**.
Check the two files before sending. Read the summery sheet and the first part of the log file to check if all is correct.
2. The E-mail subject line should read:
 - ♦ ARRL: Contest, Yourcall, Class and Power
Example E-mail subject line: ARRL DX CW N1MM SOA HP
 - ♦ CQ: Callsign and the mode (SSB or CW).
Example E-mail subject line: N1MM CW
3. See the ARRL and CQ Website for the appropriate e-mail addresses:
 - ♦ ARRL at <http://www.arrl.org/contests/email.html>
 - ♦ CQ at <http://www.cqwww.com>
4. From the robot (answering computer) in return you'll receive an automatic message, acknowledging receipt of your log. Please save this message.
5. Remember that logs received after the deadline will be considered checklogs only!

28.7 ARRL Contest Robot

Log files to the ARRL have to Cabrillo files and need to be sent as attachments (not as text)!

Below a possible response from the ARRL contest Robot.

(This is an automated response).

Thank you for your participation in the contest and for submitting your log in Cabrillo format. While the robot appears to be able to process your log, it appears to have discovered irregularities in your log. These do not affect its ability to be processed but correcting these problems will help ensure the entry is properly scored. These irregularities appear in a report at the bottom of this message. You are encouraged to review and fix these irregularities. You may then re-send it to dxcw@arrl.org. You may have to resubmit your log two or three times to get everything just right. Don't worry, the robot replaces the previous file as long as the callsign remains the same. We want to make sure that we have your information right! If you have any questions regarding this, please contact me at n1nd@arrl.org or by phone at 860-594-0232.

Your tracking number is [3044.dxcw]. Please save this receipt until verifying that your log appears on the Logs Received web page at

<http://www.arrl.org/contests/claimed/>

Thanks for your cooperation. 73

Dan Henderson, N1ND
ARRL Contest Branch Manager

ARRL DX CONTEST LOG WARNING MESSAGE REPORT FROM THE ROBOT
CATEGORY-OVERLAY: N/A

Line 7 was discarded. The CATEGORY-OVERLAY: tag is not used in ARRL contests. You may delete this line from your log.

Delete the line and send the log again. Now the log is accepted without warning messages.

28.8 Printing QSL cards

N1MM logger doesn't have a qsl cards sent/received feature. Why? If I tried to add every general logging feature people want, the program would be neither a good contest program, nor a good general logging program. I decided early on that this was to be a contest program with a few general logging features.

People seem to like many pay-for logging programs and the shareware Logger for general logging. Logger can be downloaded from: <http://www.qsl.net/kc4elo/>

For qsl'ing, many like BV: <http://www.qsl.net/df3cb/bv.html>

Both programs can accept ADIF input.

28.9 Importing a contest into your general logging program

By Franki, ON5ZO

N1MMLogger can be used for DX-logging but this is not where it was written for. You are missing some basic features of course, like award and country tracking and QSL'ing options. There is no way around this than using a specific DX logger for DX, or at least to do the "bookkeeping" afterwards. You can do this by exporting your N1MM log to ADIF and importing this file in the DX logger.

What I mean is this: N1MMLogger provides the ADIF-export feature. This creates a simple and plain ASCII file from your log-database. You can open and edit this file with any ASCII-editor, like the old DOS "Edit", Windows' Notepad or Wordpad or any other freeware editor. In this file, the different parts that define a "QSO" (time, QRG, call, reports etc. etc.) are separated by field identifiers or tags that are defined in the standard of the ADIF-format. Does not matter here, read all about it at: <http://www.hosenose.com/adif/adif.html>

You cannot simply use this file for DX logging, but you can import this file in any casual DX logging program.

When I entered a contest, and I made –let's say– 300 qso's, I export this file to an ADIF file. ADIF specifies a field named "comment", so I put a comment like "QSO in ARRL DX CW 2002" in the first QSO and save this. Then I have WordPad replace all the 299 empty "COMMENT" tags by "<COMMENT>QSO in ARRL DX CW 2002", so each of these 300 Q's gets this comment added. When I import this file in my general DX-log containing a few thousand qso's, these are marked with the specific comment. This is what I mean with "interacting". Other feature is that, in that same contest, the RST from the American stations, i.e. their state, is automatically filled in, in the "state" field in DX4WIN.

I never log a ragchew QSO or a DXpedition with N1MMLogger, and I never enter a contest with my DX-logging software. Yet all my contest contacts end up in my "general DX log", with a special note indicating what contest it was...

29 Help files and Manuals

The documentation for this program is available in three different forms

- On the Internet on the N1MM logger homepage(www.n1mm.com) , select "View Help files".
- As the programs Help file (N1MMLoggerHelp.chm) which can be downloaded below.
- As a PDF file (N1MMLogger.pdf) which can be downloaded below. The PDF file can be viewed and printed with Adobe Acrobat Reader (Version 3 or higher)

Both the Help file (CHM file) and the manual (PDF file) can be accessed while in the program. For this to happen the files should be placed in the N1MM logger program directory.

English – most recently updated / latest versions

Info - N1MM - Exch: 59 05

LZ1ABC - 28250 [N1MM @ -1 min] - worked #1163
LZ - Bulgaria, Zone 20, EU, Bearing = 53°, 4602 mi, 7407 km, LP = 233°
Sunrise: 02:54Z Sunset: 17:53Z Local std time: 15:04 (Tue)
WWV: SFI=125 A=17 K=3 R= 65 Min.R1=>Min.R1 5/27/2003 12:00Z
- Rates - 1 mult = 3.7 Q's

Last	Last	Since	Since
10	100	12:03	13:00

N1MM

Import Goals: 0
Goal = 76

Station	Pass	Run	Operator	Last 10	100	Freq
*USA	28250	☒	N1MM	180	180	28250.00
*Europe		☐	PA3CEF	60	60	21010.00

13:01:14 - Europe (213.51.240.249) Connected, req #1332

[*Europe] rates are better than last year
[*Europe] Did you already work Kenny?
[*Europe] Uffe is at the clubstation
[*Europe] Passing RL1G on 28440.0

Help file

- [View Help on the web](#)
- [Download Help as Windows Help file \(1.6 MB\)](#)

Manual

- [Download Manual in PDF format \(use right-click to download\) \(3 MB\)](#)

Version information

- [Show the version of the Help file and manual \(go to the bottom of the page\)](#)

Other information

- [Take the Quick Tour](#)

French

Other information

- [View French Help on the web](#)

German

Manual

- [Download Manual in PDF format \(zipped\) \(version 3.0.109 okt-nov 2003\) \(use right-click to](#)

[download](#)) (2.9 MB)

Italian

Other information

- [Take the Quick Tour / Una Panoramica del Programma \(July 2002\)](#)

Polish

Help file

- [View Polish Help on the web](#)
- [Download Help as Windows Help file](#)

Manual

- [Download Manual in PDF format \(version 2.0.56 10 Listopad 2002\) \(use right-click to download\)](#) (1.6 MB)

Version information

- [Show the version of the Help file and manual \(go to the bottom of the page\)](#)

Spanish

Help file

- [View Spanish Help on the web](#)

Other information

- [Take the Quick Tour](#)

29.1 Frequently Asked Questions

Question: What is the latest version of the Help and the Manual?

At the bottom of the first page the latest date and version of the Help/Manual are shown. See the link above.

NB. The **English** versions are always the latest versions of the Help and Manual.

Question: Why are the Help and the Manual out of date?

The Help updates on a schedule different from the program (mostly every few weeks).

- You need to download it separately, it's not in the N1MM logger update file.
- Check to see if there is a more recent Help file and Manual.
- Major updates will be announced on the N1MMLogger reflector but there are many in-between versions.
- The Help and Manual are updated at the same interval.

Question: Why doesn't the Help work?

- Try Alt-H and not F1
- Probably because the file is not on disk or not in the right folder (program directory N1MM logger).
- The latest version can be downloaded from the link above.

- In the big install file there is an outdated Help file included and should be updated.
- The Manual is not included at all and can be downloaded which is advised for printing.

30 Tips and Tricks

This chapter gives some tips and tricks on using the program. All tips are from Tom, N1MM unless otherwise mentioned.

- [Bandmaps, Entry windows and the mysteries thereof...](#)
- [Start of the contest season](#)
- [Autocompletion mode](#)
- [Log editing](#)
- [Prefix not found when logging contact \(no multplier credit\)](#)
- [Having F1 always send CQ](#)
- [How I recommend to S&P on a new band](#)
- [Quick Edit](#)
- [Setting contest goals](#)
- [Problems during a contest](#)
- [Using up/down to tune](#)
- [CW Tips](#)
- [Working Dupes with ESM in S&P](#)
- [Packet Spot Timeout](#)
- [How should I really use this program if I am SOA?](#)
- [How to find a worked station in the log when I miss the first part of the call](#)
- [Databases versus Contests](#)
- [Deleting qso's \(especially important for Multi-User\)](#)
- [QSYing wipes the call & spots QSO in bandmap](#)
- [Exchange abbreviations](#)
- [Too many calls on the bandmaps!](#)
- [Gray line openings](#)
- [Serial number contest tip](#)
- [Dead radio at startup](#)
- [Read the update log](#)
- [Packet/telnet button setup](#)
- [Slow PC syndrome](#)
- [ARRL Sweepstakes](#)
- [Using N1MMLogger for regular logging](#)
- [Recording qso's](#)

30.1 Bandmaps, Entry windows and the mysteries thereof...

Two Entry Windows

Having two entry windows has changed the way the program needs to behave.

Here is what you should be able to do:

- Change keyboard focus with \
- Change keyboard and transmit focus with **ctrl-left/right**

With one vfo on one band, and another on the same or second band, you should be able to jump from spot-to-spot using **ctrl-up/down** on the main vfo. With **Ctrl-Shift-Up/Down**, you should be able to jump from spot to spot on the secondary vfo. If your radio has dual receive (Orion, FT-1000/MP), you should be able to listen to both VFOs at once. **Ctrl-F12** will toggle between listening to the vfo with keyboard focus and both VFOs.

With the Orion and FT-1000/MP, the way I envision this being used in S&P: You would find a station on the main vfo, and wait for it. In dual receive, you would use **Ctrl-Shift Up/Down** to find another station that is ready to be worked. You would call whichever station is ready first. This could be done on two bands (SOA), or on a single band (MM). If one has spotted a number of calls locally (QSYing wipes the call & spots QSO in bandmap), one could use it on one or more bands in SO.

Bandmaps

Clicking on a spot on either bandmap will set that vfo to keyboard & transmit focus, and put the call in the callframe. **Double-clicking** will put the call in the callsign field.

Please print and read the keyboard assignments help. You will be rewarded with greater enjoyment of the program. Trust me.

Tom Wagner – N1MM

30.2 Start of the contest season

Approaching CQWW SSB means the start of the main part of contest season. Enhancements to the program will be curtailed during this part of the year to focus on eliminating any bugs or performance problems.

Testing

Please start testing with your favorite fall/ winter contest in the autumn. Make a copy of ham.mdb (or whatever you have called it), and use last year's contest as a test platform. Why?

Some problems only appear with larger logs. Find out performance issues. I relay on the users to let me know about them.

Would you like a guide to testing? Here is one: [TestPlan.wri](#). We would be interested in any improvements you would like to suggest for this form.

Key Assignments

Now is also a good time to review the Key Assignments. That is a good place to start to pique your interest in what the program can do.

ESM

If you are planning to operate CW or RTTY, you MUST learn about ESM (enter sends messages). It reduces fatigue and errors by sending the right message each time just by pressing enter. It may take you a while to understand and set up ESM, so don't leave this to the last minute. Believe me, those that learn to use ESM, love it.

Dual entry windows.

It would be a good idea to try those out, so you don't get frustrated during the contest. For your reference:

\ switches keyboard focus, ctl-left/right changes keyboard & transmit focus.

Also, Ctrl-Fn, and Ctrl-Enter send on the radio that does NOT have focus.

Configurer options

Finally, make sure you understand what settings you want for the following Configurer options:

- SO2V/SO2R
- Send corrected call
- Send partial calls
- Stop sending CQ when callsign changed

- Fill in his exchange when sending yours (ESM Mode)
- Config/QSYing wipes the call & spots QSO in bandmap

Tom Wagner – N1MM

30.3 Autocompletion mode

Later in a contest, you hear a lot of stations that you have already worked, whether on this band or another band.

If you check Autocompletion mode (Configurer/Other tab) the program will match the first characters that you typed to previous callsigns. It will then pre-fill the call textbox with the rest of the call. The portion of the call that you did not type will be highlighted, and you can remove it with the delete key. However, if you press space, the call will be kept in its entirety.

This function is similar the technique used in Internet Explorer to "guess" at which url you are typing.

Some like it, some don't. Try it with an existing log that has a large number of qso's.

30.4 Log Editing

You should rarely/never have to use the edit window during a contest. To get back your last q, press Ctl-Q. To go back another Q, use Ctl-Q again. To go forward, use Ctl-A. These keys ignore qso's made by other stations. It is also much better, because you are using the same entry window to edit that your fingers have gotten used to. To abandon edit of a q, press esc. The background color of the text panes changes while in "quick edit"

30.5 Country not found when logging contact (no multiplier credit)

- The preferred way to handle this is to load the latest wl_cty.dat file prior to the contest (covered in a prior email).
- A second way to handle it is to force a particular call to a country with Tools/Add Call to Country.
- A third way to handle it is to add a note (Alt-N) to the qso, and fix it later. View/ Notes will help you find those qso's with notes. Note that this addition will be wiped out on the next reload of the country file.

30.6 Having F1 always send CQ

Hitting F1 should always call CQ in CW/SSB and also place you in Running mode? Here is the trick.

N1MM logger places the program in Running mode when there is **CQ** somewhere in the message or in the Button caption. So we have to program a CQ macro on one of the the S&P buttons. Then when S&P and you press F1 (my choice) it switches to run automatically and the buttons are now the run buttons. Tune off the run frequency and they revert back to S&P. Default the function key F1 does not contain a CQ so that is what we have to change. The following changes to your Message Buttons to have F1 always call CQ.

- Config |Change Packet/CW/SSB/Digital Message Buttons | Change CW Buttons (or SSB Buttons)

- The default **S&P** Caption Button for F1 is normally: "F1 {MY CALL}"
 - ◆ This will have F1 in S&P just send your call once.
- Change the default **S&P** F1 Caption Button to "F1 CQ" followed by your CQ message in the CW or SSB Message box .
- The default **Running** CQ F1 Caption Button should also read "F1 CQ" followed by your CQ message in the message box

Note: Even when doing the above, while in ESM, the Enter key still sends Your Call once, like normal S&P operation with ESM.

30.7 How I recommend to S&P on a new band

1. Look at the available window. Are there any Mults to be had? (You should already know this, since you just chose this band.)
2. If there are mults to be worked, use Alt-Ctrl up/down to jump to them. Look at the callsign frame for the callsign. Use your ears to decide if that's the station and that they are near ready to work you.
3. Jump through all the mults until you have worked those that you can in a reasonable time. You may need to repeat the search several times to get them all. Note that you don't want to spend a lot of time waiting for them. Just keep going up and down the band and clean 'em out.
4. Repeat the process with Q's that are available (ctrl-up/down). When you find a dead frequency, try a short cq. Maybe you can get a run going. Otherwise, clean out the qso's.
5. Once you have worked all the spotted stations (assuming assisted), start manual S&P. Turn on "QSYing wipes the call..." option. If a station is hard to work, put in his call and tune to the next. The call will be spotted on your computer(s) only. You can use the technique in steps 1-4 to work him.
6. Spot non-workable stations if you are a good typist. It's nice to know where they are so you don't waste time on them during the next sweep.

30.8 Quick Edit

Do you ever log a contact with a mistake in the callsign? Want to bring it back, so you can change it? You can do it with "Edit last contact (Ctrl-Y)", but that dialog is complicated and not the right tool for the heat of a contest.

There is an alternative called "Quick Edit" (Ctrl-Q). Quick edit will return the last entered qso to the entry window to allow you to change it. Pressing enter will log the changes, ESC will abandon them. The Entry window textboxes change to blue to let you know you are in quick edit.

Was the mistake three qso's ago? Then just press Ctrl-Q three times to get to it. The same rules about saving/abandoning apply here as well.

30.9 Setting contest goals

How do you get better at contesting? One way is to set goals for yourself.

The info window supports this by allowing you to set how many qso's per hour you want to try to accomplish. As you are contesting, the four rate panes will let you know if you are at less than 50% of goal (red), between 50-100% of goal (yellow), or ahead of goal (green).

Note whatever goals you set for an hour will continue until the hour for the next goal is reached.

What if you want to beat last year's score?

The program supports that as well. Just open LAST year's log, and click the Import Goals button. Choose the day (1 or 2) and press enter. Your goals are now set to your hourly totals from last year. Don't forget to start a new log for this year! The goals will be kept until you reset them explicitly or until you LOAD A NEW DATABASE.

(You don't want to have a different database for each contest. This is a common misconception.)

30.10 Problems during a contest

What do you do if you have problems during a contest?

1. Make sure you have a previous version of the logging program around that you have used successfully in the past.

2. Make sure you have tested the program ahead of time using the modes you plan to use during the contest. Log a few sample qso's. Check all the windows you plan to use. Connect to packet or telnet if that is your plan. You might want to run through a test plan. See:

<http://groups.yahoo.com/group/N1MMLogger/files/TestPlan.wri>

If found problems before the contest, please send the bugs in to be fixed as much before the contest as possible

2. Check the Update page on the N1MM website. We frequently fix problems during the contest. The problems that we try to fix are either fatal ones, or low-risk ones. Nonessential functions that present some risk to fix, are left until after the contest.

30.11 Using up/down to tune

The up & down arrow keys can be used to tune your radio. If you are S&P, then just use them to tune in the station you are trying to work. This is particularly good for packet spots.

If you are running, you might try this technique. Set your radio up for split, and use the up/down arrows as RIT.

The amount to be tuned up/down with each press of a key is set on the Configurer Other tab.

30.12 CW Tips

CW Macro tip: Some calls have letter combinations where it's hard for to copy correctly. E.g. 6Y2A is often copied as BY2A. To help make your call easier to copy, Go to Config > Change Packet/CW/SSB/Digital Message Buttons> Change CW Buttons, and try changing the default F1 and/or F4 message where * is used for your call. In this example, 6Y2A changes F4 from * to >6<~Y2A.

Result: the 6 is sent 2 WPM slower compared to the rest of the call, and an additional half space is added between the 6 and Y. Try other combinations of <, >, or ~ to make your call easier to copy.

Contest Spacing: Go to Config > "Change Ports, Telnet Address, Other" > Function Keys. The box is defaulted ON for "Use Contest Spacing for CW". This setting changes the spacing between words in your CW, where "N1MM 599 5" is 3 words. Default is 6 bits for "contest spacing". When box is not checked, 7 bits between words is used, which is "normal spacing".

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30.13 Working Dupes

If you want to work dupes while you are S&Ping and ESM is on, change the F6 "QSO B4" message to * (your call). When you hit Enter (to call a station), it will send your call (for the first hit only!). If you can't break the pileup on the first call, you will need to hit the F4 key (your call). Once the station comes back to you, hit Enter to send your exchange.

30.14 Packet Spot Timeout

What setting should I use for the Packet Spot Timeout?

For general dxing, 30 minutes is not too long.

For a contest, you might want to crank it down to 20 minutes, since there is more movement of stations. Also, a lower timeout will mean fewer spots are managed by the program. This may help performance for those with marginally performing machines.

For testing packet spot behavior when there are few spots, or for testing performance, a timeout setting of 1000 minutes might be right.

30.15 How should I really use this program if I am SOA?

SOA = Single Operator Assisted

Try these techniques:

- Connect to a telnet node. Do a sh/dx/100 to fill up the bandmap.
- Pick the band with the most mults as shown in the Available window.
- Go to that band and use Alt-Ctrl-Up & Alt-Ctrl-Down to work all the mults on the band. Don't waste too much time on each one.
- Go back through the band and use Ctrl-Up and Ctrl-Down to work all the non-mults on the band. If you find that a frequency is dead, do you know what you call that? You call it your new RUN frequency! Call CQ and get a run going.
- When the run is over, go pick up any more mults or qso's on this band.
- Now, either move to another band and repeat, or try these techniques. Turn on "QSYing wipes the call & spots QSO in bandmap" Tune up or down through the band, looking for stations you haven't worked. Enter all or part of their calls, then tune off. The call will be "spotted" in the bandmap. You can use Ctrl-Up/down to work them later. Again, what do we call a dead frequency? That's right, it's a RUN frequency. ;-) (As you are doing this, if you can work the station without waiting, of course you should work it.)
- If you don't want to type a call, and you know you don't want to work the station, you can mark the frequency busy with the Mark button (Alt-M).
- As you are tuning, watch the bandmap. It will give you big hints as to whether you should waste time listening to a station. If you start hearing "grumble grumble" 2 kHz away from the frequency marked with Joe down the street's call, you know to speed right by.

30.16 How to find a worked station in the log when I missed the beginning of the call and only have (part of) the suffix?

There are three possibilities to find a worked call in the log. The results are shown in the bottom part of the low window below the logged qso's.

- When entering the beginning of a callsign after 3 characters a worked station starting with these three characters will be shown automatically.
- When you have from N1MM only N?M this is also enough to show N1MM and every other station that starts with N?M.
- When you only have 1MM and missed the first part of the prefix you can place a * in front of the characters you have. *1MM will show N1MM and every other station that starts with 1MM in the callsign.

Combinations are also possible:

- *1?M will show N1MM but also K1MR, J41YM etc.
- *3? or *3* will show all worked callsign with a 3 in the callsign
- *3*Z will show every station with a 3 followed by a Z somewhere in the callsign like K3ZO, VA3UZ etc.

Using a * is called a "like" search in SQL. The problem is that a "like" search is very slow so on slow computers this will take some time.

30.17 Databases versus Contests

There is a lot of confusion about how contests are stored in the logging program. To clear this up, let's start with a couple of definitions:

Database – an Access 2000 format database file with a file extension of .mdb. Any number of contests may be stored in a database.

Contest – a set of qso's within the database. They are stored in rows in a table called DXLOG. Each contest row has a ContestNr which ties it to a ContestInstance entry.

Much of the confusion comes from people thinking that they need to have only one contest in a database. This is not the case. I have only one database that I log "official" qsos in. (Of course I have many test & backup databases.) Why? because the performance of the program is not very sensitive to database size. I currently have about 14,000 qso's in my database. Now if you plan to go on a DXpedition and log 25,000 qso's, I would recommend a separate database for that. For most users, no.

Another thing. Did you ever notice the option "Copy (and compact) Database". This is one I bet you never use, but should use. Deleted space in most databases is not recovered automatically, and Access is no exception. If you delete a contest, or delete contacts (see tip on deleting contacts), you will need to run this option to recover the space. Do you need to run it every day? No. Maybe once every 6 months would do for most people, or before archiving a database.

The most important thing to remember about databases is to BACK THEM UP. Periodically copy your database to a backup device, or zip it up and copy to a floppy. Even e-mailing it to work would do! It is your entire record for all of your qso's using the program. Don't lose it. Also, if you are going to import data, or delete data, that is a good time to back up your database. If you don't have the data anymore, no one can help you!

30.18 Deleting qso's (especially important for Multi-User)

This topic affects all users, but multi-user testers the most.

As part of the multi-user support, I implemented a DELETEDQS contest. When a contact is "deleted" with Alt-D or the Delete key, it is not really deleted. It is moved to the DELETEDQS contest. Yes, you could go to DELETEDQS, and remove it, but that would not be wise. Why? Because there is no reason to delete it, and there are good reasons not to. With it in DELETEDQS, you can recover it by exporting it to an ADIF file, changing the ADIF file and importing it into the original contest. That, however is not the overriding reason not to touch DELETEDQS. The main reason is a Multi-User reason.

In multi-user, DELETEDQS is how I determine to "delete" a contact in the logs of other stations. Since no contact is ever really deleted, I need only gather all the qso's and DELETEDQS logged by a station and add or update them in the other station's logs. This lets me avoid the danger of deleting rows in a database. Therefore, DON'T MESS WITH DELETEDQS during the contest. Make a backup after the contest of all the stations' logs. Then you can do anything you want, and I can help you recover, since you have a backup. If you don't follow this advice, you will not be happy. :-(

Oh, but if it is a dupe, that's different, right? NO! Log dupes. Cabrillo doesn't care, the contest sponsor doesn't care, and it doesn't hurt your score. It CAN help your score. Log those dupes, and DON'T delete them.

30.19 QSYing wipes the call & spots QSO in bandmap

Have you ever noticed that the logging program will "spot" dupes in the bandmaps. That is, if you type in the call of a dupe then tune away from it, the entry fields will be cleared (wiped) and the call placed in the bandmap.

That feature is always active. There is a similar feature that you must turn on to use. It is called "QSYing wipes the call & spots QSO in bandmap". It does the same thing as the dupe spotting, but for other calls you enter. You must be in S&P mode for this to work.

This option is good for combing a band for stations to work during a contest. If a station you hear is not finishing a qso, you can move on to find another. The program will spot the call in **bold**, and you can use Ctrl-Up/Down to go back through and work the ones you skipped.

30.20 Exchange abbreviations

What are exchange abbreviations?

Some contests require sections, counties or other entities for the exchange. These must be LOGGED with standard abbreviations. The menu item Change Exchange Abbreviations under Config allows you to edit them.

What if you don't like for example the standard ARRL abbreviations? Well, you can enter your own. Let's say you'd like to enter CONN for CT. You can ADD CONN CT in the exchange abbreviation list and if you enter CONN or CT, the program will LOG CT. Don't replace the abbreviations that are already there. It's best to just add the ones you like. (I use the presence of certain abbreviations to determine whether to reload some of the lists.)

30.21 Too many calls on the bandmaps!

What do you do if the calls are crowded together on the bandmaps? You need to zoom in or out... There are two ways to do it. On a traditional keyboard, using the numeric pad plus (+) and minus (-) keys will zoom the current bandmap. The current bandmap is the one with the cyan frequency display. If you want to do it with the mouse, hold the cursor over the bandmap you want to zoom, then right click. Choose zoom in or zoom out.

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It is also possible not to show "non workable contacts". This means that only the stations are shown in the bandmaps which are valid qso's in the contest and not have been worked before (al normally gray contacts will disappear from the bandmaps).

30.22 Gray line openings

Watch for gray line openings when your sunrise or sunset match the other station's sunrise or sunset. You must have entered your lat/long accurately (watch the +/-) in the Station dialog. Your sunrise & sunset times can be found in Help/About.

Sunrise & sunset for a prefix or call can be found by typing it in the entry window, and looking at the Info window. Note that the sunset & sunset times are for whatever central point in that country is specified in cty.dat.

30.23 QSO confirmation

Some contest rules state that the received exchange must be acknowledged for the QSO to count. If a contest sponsor wants you to acknowledge (i.e. confirm) the exchange, they mean for you to send "QSL", "TU", or "R" to indicate receipt.

This does not mean a resend from the report back to the station. A resend would provide verification, not acknowledgment. Only under rare circumstances would you ever repeat the other stations exchange.

30.24 Serial Number contest

When waiting to work a station in a serial number contest, you sometimes log the number, then increment it for each time you don't win in the pileup. Ctrl-U increments the received serial # by 1.

30.25 Dead radio at startup

If you fail to turn on your radio at startup, the program will refuse to log contacts. This feature is to prevent a dead radio from causing you to log contacts on a wrong frequency. If the radio really is dead, go to the configurer and remove it.

If you just forgot to turn on the radio, then turn it on. If the bandmaps do not show the frequency after 10 sec or so, you can force the program to open the radio connection by opening the configurer and pressing the "OK" button. Some people think you have to restart the program, but that is slower than the configurer approach.

30.26 Read the update log

Every version of the program has a revised update log with it. This log is in the zip file, and can be accessed with Wordpad or from within the logging program (see the help menu).

This is a good source for determining what might have made some feature start or stop working. This is a cooperative project. The more research you can help with on reporting bugs, the quicker Rick & I can fix them.

Note that I occasionally change the description or credits on an item after another version has been released. If you did not get credit for reporting a bug, let me know I'll update the log.

[The page contains extremely faint, illegible text, likely bleed-through from the reverse side. The text is organized into several paragraphs and possibly a list or table structure, but the content cannot be discerned.]

The latest version always contains the most up-to-date info, so there is no reason to save old ones. The exception is that I have trimmed all version 1 updates from the log.

30.27 Packet/telnet button setup

Here are the buttons I currently use for AR-Cluster nodes: I don't think these are necessarily optimal, but they give you an idea of what is possible.

NE only means (near) New England only. (W1 & W2). The first column is the command, the second column is the button label. & in the button label makes it an Alt hotkey.

Anyone want to post a similar list for other cluster software? (Please test them first.) Also, what about screening out cw or ssb spots when in a single mode contest?

Note that the menu item Tools/Clear All Spots will remove all spots from the bandmap. You might decide that there was too many unreadable stations in the bandmap. You would set a filter (below), then clear all spots. You could then use sh/dx/100 to refill the bandmaps.

```
BYE &BYE
C K1TTT &CONN
DI/N DI/N
SH/DX/30 &SH/DX
SH/U &USERS
SH/WWV &WWV
set/filters dxorigstate/off Clear NE
set/filters dxorigcty/off Yes DX
set/filters dxorigstate/pass ny,nj,ct,ri,ma,nh,vt,me NE only
set/filters dxorigcty/pass k,ve, xe No DX
set/filters vhf/reject No VHF
{MYCALL} {MYCALL}
```

30.28 Slow PC syndrome

On some COMPAQ & Toshiba laptops with Win98, it has been seen that the PC can turn very slow after a beep (eg. CW monitor) has been given. Pulling down menu's take forever, and the PC clock operates about 10 times slower than usual. This situation persists even when the logger is shut down, and until the next boot.

The fix is simple just deactivate "Monitor via PC speaker" (Config - Configure Ports - Function Keys) and boot the PC, and it will never happen again.

You only need to do this if you have noticed the behavior described above.

73 Uffe PA5DD

30.29 ARRL Sweepstakes

Sweepstakes has different support in the logging program from any other contest. Because it is a five part exchange (call, nr, prec, ck, section) I did not implement it as five text boxes. There are two. The first is for the call. The second is for ALL five.

The larger (second) textbox will allow you to enter any of the exchange elements in any order. There are some rules that are used to interpret ambiguous information, but you can always look at the frame above the textbox to tell what the program thinks you are trying to log.

Here are some examples of exchanges and what they mean:

261 A 55 CT – 261A 55 CT
12B Q CT 61 – 12B 61 CT
12B Q CT 61 EMA 44 – 61Q 44 EMA
CO CT 12 13 B – 12B 13 CT
12A W1XX CT 66 – 12A W1XX 66 CT
(W1XX overrides call in call textbox)

The rules are:

(You must enter a space between parts, except between nr & prec.)

Rule 1, parse from RIGHT to LEFT

Rule 2, when you find a token of a certain type, stop looking for that type

Rule 3, Nr = 1 or 3+ digit number

Rule 4, CK = 2 digit number

Rule 5, Section = 2 character or more alpha token

Rule 6, Prec = 1 digit alpha token

Rule 7, If there is one two digit and one three digit number, than the two digit is the ck & the three digit is the nr.

Rule 8, If there are just two numbers and they are both 2 digits, the first is the nr, the second the ck.

Try it. It's easier to use than it is to describe.

30.30 Using N1MMLogger for regular logging

N1MMLogger can be used for regular DX-logging but it is not written for it. So there are missing some basic features, like award and country tracking and QSL'ing options. There is no way around this than using a specific DX logger for DX, or at least to do the "bookkeeping" afterwards. This can be done by exporting the N1MM log to ADIF and importing this file in the DX logger.

N1MMLogger provides the ADIF-export feature. This creates a simple and plain ASCII file from the log-database. This file can be opened and edited with any ASCII-editor, like the old DOS "Edit", Windows' Notepad or Wordpad or any other freeware editor. In this file, the different parts that define a "QSO" (time, QRG, call, reports etc. etc.) are separated by field identifiers or tags that are defined in the standard of the ADIF-format. Read all about it at:

<http://www.hosenose.com/adif/adif.html>

This file which can be exported from N1MM logger can be imported in any recent casual DX logging program.

When I entered a contest, and I made –let's say– 300 QSO's, I export this file to an ADIF file. ADIF specifies a field named "comment", so I put a comment like "QSO in ARRL DX CW 2002" in the first QSO and save this. Then I have WordPad replace all the 299 empty "COMMENT" tags by "<COMMENT>QSO in ARRL DX CW 2002", so each of these 300 Q's gets this comment added. When I import this file in my general DX-log containing a few thousand QSO's, these are marked with the specific comment. This is what I mean with "interacting". Other feature is that, in that same contest, the RST from the American stations, i.e. their state, is automatically filled in, in the "state"

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PHYSICS 311
LECTURE 10
MAY 10, 2011

LECTURE 10: ELECTRIC FIELDS

1. Electric field of a point charge
2. Electric field of a dipole
3. Electric field of a uniformly charged rod
4. Electric field of a uniformly charged disk
5. Electric field of a uniformly charged sphere

LECTURE 11: ELECTRIC POTENTIAL

LECTURE 12: CAPACITANCE

1. Capacitance of a parallel plate capacitor
2. Capacitance of a cylindrical capacitor
3. Capacitance of a spherical capacitor
4. Energy stored in a capacitor
5. Dielectric materials

LECTURE 13: ELECTRIC FIELDS AND POTENTIALS

1. Gauss's law
2. Electric field of a uniformly charged sphere
3. Electric field of a uniformly charged cylinder
4. Electric field of a uniformly charged plane

field in DX4WIN.

I never log a ragchew QSO or a DXpedition with N1MMLogger, and I never enter a contest with my DX-logging software. Yet all my contest contacts end up in my "general DX log", with a special note indicating what contest it was... I hope that with this long explanation, you see what I mean. And I hope that Tom doesn't mind the "namedropping" of the other software here... Should you decide to give it a go, and you have additional questions, feel free to send a mail to my mailaddress in stead of "broadcasting" it to the list.

Good luck, have fun and 73!
Franki ON5ZO

30.31 Recording QSO's

The program has the possibility to record all qso's made. With this feature it is possible to listen back to all qso's made.

- Select 'Record QSOs' under Config' to turn it on/off.
- You probably want to record not only the station you work but also your own audio/sidetone. The audio from your radio (preferable from a fixed audio source from the radio) has to be connected to the microphone input of your soundcard. Beware that when using the headphone output the level will change with the volume of the radio. Also your transmitted audio level will depend on the monitor level from the send audio/sidetone. The overall volume level and the wav volume level can be set by N1MM logger under the Other tab in Configurer. There are also nice other programs which can do this (see the [links chapter](#)).
- A recording for a new qso will start as soon as the qso before has been logged, so a recording will stop when a qso is logged and a new recording will begin.
- Each qso will become a separate recording (wav file). The wav file is named: '[Callsign] [Date] - [Time].wav. Example: "N1MM 10-26-03 - 22 47 45.wav"
- The WAV files (recordings) are stored in a directory under the program directory named after the selected contest. So when selecting CQWWCW the directory will be named CQWWCW. E.g. C:\Program Files\N1MM Logger\CQWW....
- Wav files can be played from within the program by right clicking on the qso in the 'Log Window' and selecting 'Play contact'. Pressing Escape stops playback of recorded contacts.
- These WAV files can of course also be played outside the program with any other media player on your computer which supports WAV files.
- Recording uses about 1 GB per 24 hours (40-50 MB per hour). There are programs which can compress these wav files to MP3 files but if this can be done at the same time when giving CQ depends a lot on the computer used. A clunker will surely not do it. There is of course the possibility to do this after the contest. Enough harddisk space during the contest is necessary.
- Recording is stopped when there is less than 40 MB space free on the current drive.
- The record function is disabled (but not automatically unchecked) when changing from CW or SSB..
- NB. When the program starts this feature will be unchecked (even when you had it checked when you stopped the program)!! You have to check this function manually. This is done so you will not have your harddisk filled with recordings because you forgot to turn it off. This can be tricky during a contest!!
- Recording is done at 11025 Hz, 8 bit, mono.
- Test before using this feature. To get the recording levels all the same (received and transmitted audio/cw) can be a bit tricky when not using a fixed audio level from the radio.

The first part of the report deals with the general situation of the country and the position of the various groups. It is a very general and superficial treatment of the subject, but it gives a good impression of the general situation.

General Situation

The Country

The country is a small island in the Pacific Ocean.

The population is about 100,000. The majority of the population is of European descent. There are also a few people of other races. The climate is tropical. The land is fertile. There are many beautiful beaches. The people are friendly and hospitable.

The economy is based on agriculture and tourism. There are many beautiful beaches and a good climate.

The government is a democracy. There are many political parties. The people are free to express their opinions.

The education system is good. There are many schools and universities. The people are well educated.

The health system is good. There are many hospitals and clinics. The people are healthy and long-lived.

The culture is rich and diverse. There are many different customs and traditions. The people are proud of their heritage.

The environment is beautiful. There are many beautiful beaches and a good climate. The people are very conscious of the environment.

The future is bright. The country is developing rapidly. The people are optimistic about the future.

31 VHF and Up contesting

N1MM logger has some features which will be appreciated especially by VHF and up contesters. The program supports bands up to the SHF bands 10, 24, 47, 76, 142 and 241 GHz

Multipliers - County/Other - 64 worked										
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
89	99	09	19	29	39	49	59	69	79	89
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
88	98	08	18	28	38	48	58	68	78	88
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
87	97	07	17	27	37	47	57	67	77	87
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
86	96	06	16	26	36	46	56	66	76	86
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
85	95	05	15	25	35	45	55	65	75	85
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
84	94	04	14	24	34	44	54	64	74	84
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
83	93	03	13	23	33	43	53	63	73	83
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
82	92	02	12	22	32	42	52	62	72	82
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
81	91	01	11	21	31	41	51	61	71	81
10	10	JO	JO	JO	JO	JO	JO	JO	JO	JO
80	90	00	10	20	30	40	50	60	70	80
10	10	JN	JN	JN	JN	JN	JN	JN	JN	JN
89	99	09	19	29	39	49	59	69	79	89
10	10	JN	JN	JN	JN	JN	JN	JN	JN	JN
88	98	08	18	28	38	48	58	68	78	88
10	10	JN	JN	JN	JN	JN	JN	JN	JN	JN
87	97	07	17	27	37	47	57	67	77	87
10	10	JN	JN	JN	JN	JN	JN	JN	JN	JN
86	96	06	16	26	36	46	56	66	76	86

☐ Country ☐ ZN ☐ Sect ☒ Other Auto Auto Reset

31.1 VHF options

31.1.1 Call History Lookup

More information about this can be found in the chapter [Before the contest](#)

This feature is not only for VHF contesting but also for HF contests. In all cases the possibility to use this lookup function means changes in the contest class by the programmer. Lookup examples are lookups for names (Friends file in RTTY contests), gridsquares for VHF contests, ages in All Asian dx contests etc.

Call history is implemented in a separate table in each database. The table is called CallHist. The entry window menu options for importing and exporting are just for that table. Currently, there is no way to export from a contest log to the call history table.

Call history lookup is enabled with the option (Config | Call History Lookup). If enabled, it will look up for VHF contests: Grid Square (max 2) and Name.

Note: There is no export from a contest to the call history yet, filling the callhist table has to be done by importing a text file.

31.1.2 VHF master.dta file

For HF there are several master.dta files which contain callsigns of active contesters. Select the [cty.dat](#) link on the [download page](#). This has also been done for RTTY (download from the N1MM website and select in the left menu: Other Files) and can also be done for VHF and up contesting. A very nice tool to create a master.dta file has been written by Alex, VE3NEA. This tool can be downloaded from his site (see the [links section](#)) and is freeware! A text file with callsigns is needed. An example master.dta file for VHF is available from the N1MM website and select in the left menu: Other Files (together with the Callhist Import file)

31.1.3 Transverter support

N1MM logger has transverter support in the form that per bandmap an offset frequency can be set. Right click menu bandmap and select **Set transceiver offset frequency**. Enter the transceiver offset frequency in kHz (minus is allowed). Example: 116000 when using a transverter from 28 MHz to 144 MHz ($144000 - 28000 = 116000$). The same for other bands (up or down). This can be set per bandmap so when using two transceivers with transverters they can each be on a different band. The offset is saved by the program so after a restart the offset is still there.

31.2 Example contest setup

Additions are welcome!

31.2.1 Create (days) before the contest

- New master.dta file
 - ◆ Use tool from Alex, VE3NEA, see chapter [Links](#)
- Text file with windows setting (on computer to use)
 - ◆ File | Export | Export Windows Settings to file...
 - ◆ Give a name like: VHFwindows.txt
- Text file with program setting (on computer to use)
 - ◆ File | Export | Export Program Settings to file...
 - ◆ Give a name like: VHFprogramsettings.txt
- Text file with contents Function keys for SSB/CW
 - ◆ As a start:
 - ◇ File | Export | Export Function Keys to file... | SSB Function Keys
 - Give a name like: VHFssbfunctionkeys.mc
 - ◇ File | Export | Export Function Keys to file... | CWFunction Keys
 - Give a name like: VHFcwfunctionkeys.mc
 - ◆ Update these text files if needed
 - ◆ Check possible macros in [chapter macros](#)
- Packet/Telnet button text file
 - ◆ As a start: File | Export | Export Packet/Telnet Buttons to file...
 - ◆ Update this text file if needed
 - ◆ Give a name like: VHFpacketbuttons.txt
 - ◆ Check possible macros in [chapter macros](#) like {GRIDSQUARE}
- Lookup database text file for the VHF contests to use
 - ◆ Create a text file with callsign, name, locators etc.
 - ◆ Give a name like: VHFlookup.txt

- ♦ See info about CallHist file
- SSB: Wav files for CQ, rst, exchange etc.
 - ♦ Create wav files for all operators.
 - ♦ See {OPERATOR} macro in chapter macros
- Download up to date country file (cty.dat)
 - ♦ mostly a country file is not used for VHF and up contesting but the program gives information in the Info window about the logged callsign so download the latest version.
- Check if the selected contest is still ok, make some test qso's
 - ♦ This should be done *weeks* before the contest!
-

31.2.2 Before starting the program

- Copy the created master.dta file in the N1MM logger program directory
- Copy the wav files from all operators in the WAV directory
- Turn off Windows sounds if using WAV files
 - ♦ Control Panel – Sounds – Scheme: No Sounds
- ...

31.2.3 After starting the program

- Select/Check if correct database is used
 - ♦ File | open Database and select VHF database.
- Import
 - ♦ This has to be done only once if every time the same database is used!
 - ♦ Each database can handle many contests and thousands of qso's, don't use a database for every contest!
 - ♦ Updated files (like the lookup file) have to be imported before every contest.
 - ◊ Import Program Settings from file..
 - File | Import | Import Program Settings from file..
 - Use file created above (Example: VHFprogramsettings.txt)
 - ◊ Import Program Settings from file..
 - File | Import | Import Windows Settings from file..
 - Use file created above (Example: VHFwindows.txt)
 - ◊ The function keys macros (SSB/CW)
 - File | Import | Import Function Keys to file... | SSB Function Keys
 - use file created above (Example: VHFssbfunctionkeys.mc)
 - File | Import | Import Function Keys to file... | CW Function Keys
 - use file created above (Example: VHFcwfunctionkeys.mc)
 - ◊ The packet/telnet buttons
 - File | Import | Import Packet/Telnet Buttons from file...
 - use file created above (Example: VHFpacketbuttons.txt)
 - ◊ Lookup file
 - File | Import | Import Call History
 - use file created above (Example: VHFlookup.txt)
 - ◊ Country file
 - ◊ Tools | Reload CTY.DAT
 - Use file downloaded/updated above
 - ♦ Check Station dialog (Config | Change your Station Data)
 - ♦ The locator from this dialog is used for distance calculation so needs to be entered!
- Check contest (File | Choose contest)

- ♦ Check if entered information is correct.
- ♦ Enter Sent Exchange (this is contest specific , see chapter Setup Contests)
- Setup configuration (Rig control, PTT, CW)
- When using a transverter
 - ♦ Enter offset for bandmap A and bandmap B
-

Have fun during the contest!

32 Key Assignments

The keys below work from all main windows

32.1 General Key Assignments

- **Space** – The spacebar will jump from field to field filling in defaults like the callsign from the frame, 59/599, and information from previous contacts with this station. **SPACE IS THE PREFERRED TAB CHARACTER.**
- **Tab** – Jump to the next entry field in the Entry Window.
- **Shift-Tab** – Jump to the previous entry field in the Entry Window.
- **Alt-H** – Show this help file. Note that pressing Alt-H in any window will show the help specific to that window.
- **Ctrl-Tab** – Toggle between the Entry window and the Packet window.
- **Ctrl-F11** – toggle through all the antennas **for that band**. The selected antenna will show in the status pane.
- **Alt-F4** – Quit the program. If two Entry windows (SO2R) the program will not exit. You are being asked if you are sure.

32.2 Active Radio/Bandmap Control Key Assignments

- **Ctrl-Down Arrow** – Get next spot higher in frequency that is not a duplicate. If you are operating single mode, your mode won't change when jumping between spots.
- **Ctrl-Up Arrow** – Get next spot lower in frequency that is not a duplicate. If you are operating single mode, your mode won't change when jumping between spots.
- **Alt-Ctrl-Down Arrow** – Get next spot higher in frequency that is a *multiplier*. If you are operating single mode, your mode won't change when jumping between spots.
- **Alt-Ctrl-Up Arrow** – Get next spot lower in frequency that is a *multiplier*. If you are operating single mode, your mode won't change when jumping between spots.
- **Ctrl-Left arrow** – Move both TX and RX/Keyboard focus to VFO A or in SO2R to left radio
- **Ctrl-Right arrow** – Move both TX and RX/Keyboard focus to VFO B or in SO2R to right radio
- **Ctrl-Page Up** – Go up one band. WARC bands are being skipped while logging for a contest.
- **Ctrl-Page Down** – Go down one band. WARC bands are being skipped while logging for a contest.
- **Up Arrow** – Tune radio down 100 Hz on SSB, 20 Hz on CW.
- **Down Arrow** – Tune radio up 100 Hz, 20 Hz on CW
- **Page Up** – Tune radio down 10 kHz (only when a radio is attached).
- **Page Down** – Tune radio up 10 kHz (only when a radio is attached).
- **Numeric keypad + (plus)** – Zoom in the bandmap with KEYBOARD focus to show fewer stations (less bandwidth).
- **Numeric keypad - (minus)** – Zoom out the bandmap with KEYBOARD focus to show more stations (more bandwidth).
- **F9** – Set frequency or offset to current frequency for the active radio. The frequency can also be set in the Callsign textbox in the Entry Window entering it with Enter.
- **Alt-F7** – Set split frequency or offset to current frequency for the active radio. More information about working split can be found in the Basic Functions chapter.
- **Ctrl-Enter** – Entering a frequency or offset in the callsign field and entered with Ctrl-Enter will set a split frequency.

- **Alt-S** – When your rig is in the split mode, Alt-S will reset the RX frequency back to your transmit frequency, but the split mode is preserved. "Reset RX freq when running split" is associated with Alt-S. When invoked, the program will automatically do an Alt-S as you log each QSO. Operates on left vfo/radio only.
- **Ctrl-S** – When your rig is in the split mode, Ctrl-S will toggle the RX frequency between the split RX frequency and the TX frequency while maintaining the split.
- **F10** – Swap between VFOs when using one radio (VFO A-B) or between radios when using two radios (Radio 1 – Radio 2).
- **Pause** – Swap radios and match keyboard to radio.
- **Alt-Q** – Jumps to the last CQ frequency on this band (active bandmap)
- **Alt-Shift-Q** – Jumps to the last CQ frequency on other band (non-active bandmap).
- **Alt-Ctrl-Q** – Jumps to your last used CQ frequency on *any* band and tune active bandmap to that frequency.
- **Ctrl-T** – Turn on the radio and send continuous CW (tune). Ctrl-T again or the Escape key ends the transmission.
- **Shift-F12** – Jump to your last frequency.
- **Alt-'** (Alt-singlequote) toggle between the wide and narrow filter for the selected mode (SSB, CW and Digi modes).

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- **Ctrl-F9** – Selects the mode for Dual radio toggle (Ctrl-F12)
 - ♦ Selected – The sub receiver will be left on (blinking green RX led)
 - ♦ Not selected – The sub receiver will be switched off (RX led off)
- **Ctrl-F12** – Dual radio toggle

TenTec Orion

- **Ctrl-F12** – Toggle between Main/left Sub/Right and Active in both ears.

32.3 Non-Active Radio/Bandmap Control Key Assignments

- **Ctrl-Shift-Down Arrow** – Get next spot higher in frequency.
- **Ctrl-Shift-Up Arrow** – Get next spot lower in frequency.
- **Alt-Shift-Ctrl-Down Arrow** – Get next spot higher in frequency that is a *multiplier*. If you are operating single mode, your mode won't change when jumping between spots.
- **Alt-Shift-Ctrl-Up Arrow** – Get next spot lower in frequency that is a *multiplier*. If you are operating single mode, your mode won't change when jumping between spots.
- **Alt-Shift-Q** – Jumps to your last CQ frequency on the inactive vfo/radio.
- **Ctrl-Shift-Page Up** – Go up one band.
- **Ctrl-Shift-Page Down** – Go down one band.
- **Shift – Numeric keypad + (plus)** – Zoom in the inactive bandmap which not has KEYBOARD focus to show fewer stations (less bandwidth).
- **Shift – Numeric keypad – (minus)** – Zoom out the inactive bandmap which not has KEYBOARD focus to show more stations (more bandwidth).

32.4 Logging Key Assignments

- **Enter**
 - ♦ Log contact, when 'Enter sends message' is *off* in configurer dialog
 - ♦ Sends message when 'Enter sends message' is *on* in configurer dialog. The send messages depend on the field values i.e. in which field the cursor is in the Entry Window.
- **Space** – Preferred TAB character

- ◆ Jumps from callsign to Exchange field or vice versa.
- ◆ Other fields' default values will be filled in
- ◆ If there is a call on the callsign frame and if the callsign field is empty, the call from the frame will be placed in the callsign textbox.
- **Ctrl-Enter** – Send End of Contact message key and log the contact. In ESM it just logs the contact (nothing sent).
- **Insert** – Sends His Call key followed by the Exchange key.
- **Alt-W** or **Ctrl-W** – Wipe Out Entry Fields, clear information about the current contact (Alt-W = Ctrl-W).
- **Ctrl-Y** – Edit last contact.
- **Ctrl-D** – Delete the last contact.
- **Alt-O** – Store the contact in the Bandmap.
- **Alt-M** – Mark this frequency in the Bandmap as being in use.
- **Alt-D** – Removes the spot from the bandmap which is on the callsign frame or in the callsign field in the Entry window when S&P or CQ-frequency when Running..
- **Alt-P** – Spot the contact on the current Packet/Telnet connection.
- **Ctrl-F** – Find the callsign entered in the callsign field in the log.
- **Ctrl-G** – Find another instance of the call entered in the callsign field in the log after Ctrl-F.
- **Ctrl-M** – Enable/disable 'Enter sends message' mode.
- **Ctrl-N** – Add a note to your last or current contact.
- **Ctrl-Q** – Quick Edit mode, go back one qso in the log. Enter logs and Escape discards the changes made.
- **Ctrl-A** – Quick Edit mode, go forward one qso in the log. Enter logs and Escape discards the changes made.
- **Ctrl-U** – Increase the number in the exchange field by 1.
- **Shift-Enter** – This is the Call Stacking feature, it 'remembers' callsigns with their frequencies and then quickly work them. An example is given in the [Basic Functions](#) chapter.
- **Alt-U** – Toggles the runbox value (Running mode versus S&P mode)
- **Alt-K** – Change the contents of the Packet/CW/SSB/Digital message buttons.
- **Alt-Y** – Will "yank" the first call from the Check window in the Entry window callsign field.

<i>Key</i>	<i>Send function key(s)</i>	<i>Action(s)</i>
<i>Insert</i> (middle)	His Call Key & Exchange Key	Send His call followed by the Exchange.
<i>;</i> (same as <i>Insert</i> key)	His Call Key & Exchange Key	Send His call followed by the Exchange.
Ctrl-Enter		Log the contact.
,	End of QSO Key & Log contact	Will send the <i>End of QSO</i> message and logs the contact.

32.5 Message Key Assignments

The message send by the function keys F1 through F8 depends if you are in Running mode or in Search and Pounce mode.

It all depends if the Running indicator in the Entry window is marked or not.

Below the function keys with their associated **default** messages, the function keys can be remapped to others on the [Function Keys](#) tab in the configurer..

<i>Default Function keys</i>	
F1	CQ key
F2	Exchange key
F3	End of QSO Key
F4	My Call Key
F5	His Call Key
F6	QSO B4 Key
F7	
F8	Again Key

- **Esc** – Stop sending CW or wav. file.
- **Ctrl-R** – Set CQ repeat time in seconds or milliseconds (Example: 1.8 or 1800)
- **Alt-R** – Turn on repeat mode. Escape turns it off.
- **Shift-Ctrl-F1** – Record CQ SSB message using the wav file from the defined CQ button in the configurer (mostly F1). Pressing Shift-Ctrl-F1 again stops the recording.

32.6 CW Key Assignments

- **F11** – Adjust CW speed down 2 wpm.
- **F12** – Adjust CW speed up 2 wpm.
- **Ctrl-K** – This will close the CW window but will continue sending the message

32.7 Multipliers by band window keys

- **Ctrl-J** – Toggle through the Countries, Zones, Sections & Other windows (if the window is not open, it will be opened)
- **Ctrl-Shift-J** – Opens or minimizes the Multiplier-by-band window
- **Ctrl-Alt-J** – Toggles through continents.

32.8 Multi-user keys

- **Ctrl-E** – Talk, send a message to another station in the network.
- **Ctrl-O** – Change operator callsign (Multi-user).
- **Alt-Z** – Set pass frequency which is broadcasted to all connected computers.

32.9 'Enter Sends Message' mode (ESM)

- **Ctrl-M**– Toggle 'Enter Sends Message' mode

Callsign field	Exchange field	<i>Running mode</i>	<i>Search and Pounce mode</i>
----------------	----------------	---------------------	-------------------------------

		Enter sends:	Enter sends:
Empty	Empty	<i>CQ (F1)</i>	<i>My Call (F4)</i>
New Call (1st time)	Empty or invalid	His Call + Exch (F5 + F2)	My Call (F4)
New Call (repeat)	Empty or invalid	Again? (F8)	My Call (F4)
New Call	Valid (before sending exchange)	His Call + Exch (F5 + F2)	Exchange (F2)
New Call	Valid (after sending exchange)	End QSO + Log (F3 + Log It)	End QSO + Log (F3 + Log It)
Duplicate Call	Empty or invalid	QSO B4 (F6)	QSO B4 (F6)
Duplicate Call	Valid (before sending exchange)	QSO B4 (F6)	Exchange (F2)
Duplicate Call	Valid (after sending exchange)	End QSO + Log (F3 + Log It)	End QSO + Log (F3 + Log It)
Dupe (1st time), Work Dupes checked	Empty or invalid	His Call + Exch (F5 + F2)	QSO B4 (F6)
Dupe (repeat), Work Dupes checked	Empty or invalid	Again? (F8)	QSO B4 (F6)
Dupe, Work Dupes checked	Valid (before sending exchange)	His Call + Exch (F5 + F2)	Exchange (F2)
Dupe, Work Dupes checked	Valid (after sending exchange)	End QSO + Log (F3 + Log It)	End QSO + Log (F3 + Log It)

32.10 Packet/Telnet Key Assignments

- **Ctrl-P** – Spot the station entered in the callsign field as a spot to the active cluster connection, either packet or telnet. You will be prompted for a comment. If no station is entered in the callsign field, the last station worked this session will be spotted.
- **Left-click** – Tune the active radio to the frequency of the spot.
- **Shift-Left-click** – Tune the *inactive* radio to the frequency of the spot.

32.11 SO2R Key Assignments

- **Backslash (\)** – Launches a second Entry Window if only one Entry window is open.
 - ♦ **One radio** – Change Receive (RX) and transmit (TX) focus
 - ♦ **Two radios** – Change Receive (RX) focus
- **F10** – Change transmit focus
- **Ctrl-Left arrow** – Move both Transmit and Receive/Keyboard focus to left radio
- **Ctrl-Right arrow** – Move both Transmit and Receive/Keyboard focus to right radio
- **Pause** – Swap both Transmit and Receive/Keyboard focus
- **Ctrl-Enter** – Send next ESM state on alternate radio (assuming ESM turned on)
- **Ctrl-F1 to F8** – Send message (for that function key) on alternate radio
- **Ctrl+B** Dueling CQ's will send CQ (without delay) alternately on each radio
- **Ctrl+X** Resume CQ on Run Radio will start CQ again on the run radio whenever you are not sending on the S&P radio

32.12 RTTY Key Assignments

<i>Key</i>	<i>Button Caption</i>	<i>Action (in text)</i>
<i>F1</i>	&CQ	CQ TEST DE *
<i>F2</i>	&Exchange	5NN #
<i>F3</i>	&His Call	!
<i>F4</i>	&My Call	*
<i>F5</i>	&TU	TU DE *
<i>F6</i>	Call/Exch	! 5NN #
<i>F7</i>		

- **Alt-T** – Toggle TX – RX
- **Alt-G** – Grab callsign.
- **Ctrl-Arrows** – Swaps from one active DI to the other DI. DI1 will follow radio1(bandmap A)
DI2 will follow radio2 (bandmap B).

32.13 Window Key Assignments

- **Ctrl-Tab** – Toggles between the Entry window and Packet window.
- **Ctrl-B** – Display the Bandmap window
- **Ctrl-K** – Display the CW Key window
- **Ctrl-L** – Display the Log window

33 Frequently Asked Questions

33.1 Program errors and requests

Q. Where can I download the program?

A. All information for a first or a subsequent install can be found at the [installation page](#)

Q. What to do to get familiar with the program?

- Read the manual!
- At least read the Quick Tour, Using the program, the Entry Window and the Key Assignments chapters.
- You **MUST** print out and read the key assignments help.
It is the quickest way to get a good idea of what the program can do. There are things that are not covered in key assignments, but if it is important for heads-down contesting, then there is a keystroke for it.
- Use the program as logging program in DX mode before entering a contest.
- Use the program with the contest set up and make 'dummy' qsos before entering a contest.
- Use it and look in the manual if things are not clear.
- Still not clear? Get on the reflector and ask. There are many people there who can help.

Q. The program displays an error. What should I do?

A. When the program displays an error or suddenly ends this may be a bug in the program or a problem on your computer. Here are some hints on how to determine if it is a bug and how to report it.

- Try to record what you did when it happened.
- If you do the same thing again does it happen again?
- If so, **try to run 'clearregistry.bat' in the program directory of N1MM logger.** You will reset all of your configuration settings, but this often fixes the problem. Be sure to save (export) your windows and program settings first. It's unlikely that a run-time of error can be fixed by reinstalling the software.
- If the problem still exists, submit a bug report and give as much information as possible.
 - ◆ What operating system are you running?
 - ◆ How fast is your computer (processor speed, type of CPU)?
 - ◆ How much memory does the computer have?
 - ◆ What log are you using (DX, CQWW CW etc.)?
 - ◆ What radio are you using?
 - ◆ What are the steps to reproduce the problem?
 - ◆ Has it worked before (earlier version)?
 - ◆ Any information you think is necessary to help resolve the problem. What things are working, what is not.
 - ◆ Enter this information to the [bug form](#) on the N1MM logger website

Q. The program displays an error. Would removing and installing the program again Help?

A. Clear registry is your best bet. Reinstalling the original software would only help if you installed some other software that overlayed a dll with a dll that caused a problem. Reinstalling might or might not fix the problem in that case.

Q. The program gives an error opening the database..

A. Microsoft has a utility to deal with corrupt databases. Before using any utility like this, **MAKE A BACKUP COPY OF THE DATABASE**. The database name is ham.mdb if you have not created a new one. Here is the link for the utility.

<http://support.microsoft.com/default.aspx?scid=kb:EN-US;q273956>

Use version type 4 when fixing.

Q. Why isn't there an xyz feature?

A. If you haven't at least looked at the key assignments in the help, please don't ask.

Q. Why isn't there a field to enter the QSL manager.

A. This won't be added. You can add it to the comment field in dx mode or add it to the comment field during a contest by using Alt-N (note).

Why? If I tried to add every general logging feature people want, the program would be neither a good contest program, nor a good general logging program. I decided early on that this was to be a contest program with a few general logging features.

Q. It seems like N1MM has favorites. Why do some users get almost all their requests implemented, and others don't?

A. You are right, he does have favorites. Want to be a favorite? Follow these rules:

- Read the help before reporting a bug. I.e. understand what the program is supposed to do.
- Do some work to determine the circumstances that cause the bug. Don't report, "I start the program and it crashes, what's up?" Instead report, "I am running 2.1.xxx My radio is an FT-1000D, and I'm using the dx log. If I try to start with ESM mode, the program gets a runtime error xxx. If I clearregistry and start again everything is fine, but every time I set ESM mode, the runtime error returns." That is a problem that can be fixed. The first description can't.
- Don't ask for general logging features. This is a contest program.
- Don't install the program during CQWW, and then complain about it. This actually happened!
- Reports from the heat of a contest get the most attention. If they are serious bugs during the contest, they'll get fixed if possible. Feature requests that are a result of making a lot of qso's in a contest get more weight than "wouldn't this be nice".
- Remember that this is a freeware project, and you are expected to help.

Q. The contest I want to participate in is not listed, what to do?

A. The N1MM logger does not have a contest setup program for new contests. So you can't create your own contests. Make a request you want this contest added. There are some possibilities to use a supported contest or general logging (DX) for the contest you want to participate in. Most of the times the multipliers are not correct but the dupes are checked. In some contests you could use an adapted CTY.DAT file (like the PACC contest). If the contest committee wants to have Cabrillo logs the multiplier will be calculated by them.

Q. 'Out of memory' message under Win98SE with large RAM

A. Some research on the illustrious 'Out of memory' message under Win98SE with large RAM (512MB) brings you to the Microsoft support site. Have a look at Q253912. This tells you to eEdit the System.ini and insert the variable MaxFileCache= <size in kB> at the [vcache] section. For 512 MB of RAM a shareware program advised a MaxFileCache from 98304 kB. This solved the problem.

33.2 Installation / Upgrading

Q. When installing the base installation I get a 'Run-time error – Automation error'

A. This is a problem with OLEAUT32.DLL mostly on Windows 95. The version on the computer is too old for N1MM logger, replace it with a newer version. Use a version from Windows 98 or download VBRUN60SP5.EXE from the N1MM website and select in the left menu: Other Files or download it from the Microsoft Download center.

A. Try running the ClearRegistry program in the N1MM logger program directory. Sometimes this has something to do with wrong configuration of ports.

Q. How to update?

There is no need to load each version from the beginning. Updates are progressive which means that the current one incorporate all the fixes from day one. You can easily skip a bunch of versions if desired.

Q. Why doesn't the help work? Why is it out of date?

A. The help changes on a schedule different from the program. You need to download it separately. Like all the other parts of the program, it can be downloaded from the N1MM homepage. The Help is also available in PDF format so it can be printed.

Q. Where to get the latest country file for the program.

A. The country file used by the program is CTY.DAT in the program directory. Information about this file and how to update this file can be found on the [Download](#) page.

Q. When upgrading I get 'Error 429'.

The 429 error is usually caused by having the wrong version of CW IF.exe in the directory where the logging program is installed. All the files in the NewexeV.x.xx.zip have to be installed in the original install directory.

Q. Run Time error 339 – Component RICHTX32.OCX or one of its dependencies not correctly registered a file is missing or invalid

A. Install Richtx32.zip from the N1MM website and select in the left menu: Other Files. Please read the instructions in the zip file.

Q. Where can I download parallel and serial port support for NT, Windows 2000 & XP?

Q. I get an error message" DLPORTIO.DLL missing".

A. Download Port95nt.exe, this is a port driver. A link to this file can be found in the [installation](#) section. To install just run the exe.

More difficult (but a smaller download) is using dlportio.zip. Follow the instructions in section 3.2 of the file DLPORTIO.pdf. It is called:

Automatically Installing the DriverLINX driver. The actual code installed and operating is tiny compared to the size of the zip file.

Q. I installed DLPORTIO but still no CW from the parallel/serial ports (NT, Windows 2000 & XP) or

A. Try installing DLPORTIO.DLL if no success just copy the DLPORTIO.DLL and DLPORTIO.SYS in the logger directory and try again, this sometimes works...

Q. I keep getting a "red" error message in the Entry window that says "no cw port configured".

A. Select a port for cw in configurer. This could be a serial port or a parallel port.

Q. When ever I set the information for the rig in N1MM, the program slows to a crawl. I have other programs that use rig interface that work great with out any latency.

A. What settings are you using for the serial connection? Is your serial adapter powered off the computer? If so, you need to specify "always on", "always on" for DTR & RTS.

33.3 Program features

Q. How can I see if I'm in Running or S&P mode?

A. Look at the background color of the fields in the Entry window. A white background means Running, a light yellow background means S&P. Also the running indicator tells in what mode you are.

Q. When I tune close to a station in the bandmap, the call appears in the frame around the callsign field. Do I have to retype the call to enter it?

A. No. Press the space bar, and if the callsign field is empty, the call from the frame will be placed in the callsign field. You can use the space bar as your normal Tab key.

Q. Is there any way I can avoid having the tab key jump to fields (like RST) that don't normally need to be changed?

A. Yes. Use the space bar. It is the preferred tab character in the entry window. The space bar operation is described in the Key Assignments portion of the help.

Q. Why don't the calls of the stations that I have already worked show up in the Check window?

A. They appear in the bottom portion of the Log window (the one with your contacts). Also, once you press the space bar, dupe will appear if the station is a duplicate.

Q. CQ repeat not working on VFO B

A. Make sure repeat (Alt-R) is on for both VFO's Make sure the SO2R CQ options are OFF.

Q: To get any frequency into the log, is no problem. But how can I customize the available Multi's and Q's, getting new frequencies in, others out?

A. Shows WARC for general logging. VHF if you are on VHF. HF if you are on HF. No way to choose.

Q: How can I customize general logging, that a WWL is (optional) included in the input window? How can the Log-Window be modified?

A. It's not possible to change the entry or log fields. The fields are fixed in a contest which are written in VB 6.0.

Q: How can I modify, what for bands during general logging will be used? Normally I am QRV from 160m up to 3 cm (10 GHz), all or most bands!?

A. Connect to a radio that has computer control for those bands or type the frequency in the callsign textbox & press enter.

Q: Serial no. exchange starts at IARU VHF Reg.1 with 001, that means two or one leading zero(s) before the No. to exchange. This is up to 099. No. above 999 are simply 1000, 1223 etc. How can I modify N1MM logger, that leading No. were sent (CW-keyer, voice....)? This is usually here in EU with the leading zeros.

A. In the configurer Function Keys tab. No leading 0's just T's.

Q: How can I modify the telnet time out? I want to set it higher, because link time is often long. I use telnet packet-cluster via packet-radio and tcpip via AX25. May be a WINDOWS topic. I do not know...

A. Not currently settable.

Q. I am trying to get the LPT1 port to send CW it works just fine in other Windows and DOS contesting programs.

A. Make sure the LPT1 port address in the configuration menu matches the address listed under "Printer Port" properties in Device Manager.
Go to Control Panel > System > Device Manager > Ports > Printer Port > Properties > Resources.
The first number under Input/Output Range (minus the leading zero) is your port address, i.e. 3BC.
Whatever that value is copy it to the LPT1 address box in configuration (the program uses 378 as a default).

Q: Serial/PTT/CW: You can set COMx's pin 4 DTR for PTT or CW, but pin 7 RTS only for PTT. Is there a special reason for that RTS can not be set to CW?

A. Not currently settable. No particular reason. No contest programs have that as a standard.

Q. I get: A Telnet Communications Error Occurred. Error: 10061 Connection is forcefully rejected

A. The selected Telnet cluster declines your request to log in for some reason. Reasons could be that the maximum number of users are already connected.

Q. In ARRL Sweepstakes, the program ignores two-digit NR's. What can I do to enter a two-digit serial number?

A. You have two choices. Either enter 033 for 33, or append the precedence without a space, like '33B'. I'm thinking about programmatic solutions.

Q. If a wrong Callsign is entered and later corrected the Exchange stays the same!

Example CQWW: I enter HA1M and press the spacebar, the exchange is automatically filled with (zone) 15. I made a mistake in the call so I correct it in PA1M and press the spacebar again. The cursor jumps to the Exchange field but this does not change to zone 14. The exchange is wrong now. Is this a bug?

A. That's not a bug, that's the way it works. Once an exchange is filled in, the program won't change it. Delete it, and press space. The correct value will be inserted.

Q. What will the program send when the exchange is a number?

A. There are two possibilities. Let's assume the last qso had qso number 133

If the callsign field is filled with a call the next number will be sent. Example: 599 134

If the callsign field is empty the last number will be sent. When there is no callsign why give a new number, most probably the last worked stations asks his received number again. This number will be sent. Example 599 133

Q. While sending CW my keying speed slowed but the display did not change. What is happening?

A. It is possible in CW to send parts of a message faster (mostly in the exchange) than the normal text. This can be done with the characters < (increment CW speed by 2 wpm) and > (decrement CW speed by 2 wpm). When the speed slows down or increases without the display changing then there are probably unmatched < < < > > > characters in your exchange.

Q. I connect to packet, do a sh/dx/30, but no spots show up in the bandmaps. What's up?

A. A few things can be wrong. First, check to make sure that the spots are not older than the Packet Spot Timeout value in the configuration dialog (Config/Configure Ports, Telnet Address, Other/Other). If this is not the cause of the problem, make sure that your system is set to the proper time zone (not GMT!), with the proper daylight savings time option in Windows (not in N1MM logger). Next, make sure the time on the PacketCluster is close to the time on your system. Finally, make sure the dates of your system and the PacketCluster system are the same. Note, if you connect to a local, non-Internet connected PacketCluster early in the morning, often there are few, if any, current spots available. This is normal.

Q. How do I spot stations?

A. Spotting stations may be done from the Entry window.

The station entered in the callsign field will be spotted. If the callsign field is empty the last qso with its correct frequency will be spotted.

- Alt-P spots stations
- Ctrl-P spots them with a comment.

It is also possible to spot every logged qso automatically. Only stations not already in the bandmap and stations that are worked while searching & pouncing will be spotted.

Q. Only ON stations show up after a SHow/DX

A. The problem here is that the cluster you are using is not a DX-spider cluster but you told the program it is. Uncheck the "Format for DX Spider Cluster" box in Configurer (Other tab). DX-spider uses **SH/DX on 20** to show spots on 20 meters. Not DX-spider clusters will think you send the command **SH/DX on** which means Show DX from ON (Belgium).

Q. I want statistics but where are they?

A. Well not in the program but there is a nice web interface of I8NHJ (see Files section). This can be used live during the contest. It gives all sort of statistics, and could be expanded to fulfill your requirements. The advantages is that it is completely independent of the logger, extracting the data from the database file (.mdb). It requires the IIS web server (NT W2K XP) on one of your PCs, but the statistics can be accessed anywhere with a web browser.

Q. My friend wishes to use the same digital/ssb/cw button legends and contents as me. Is there a quick way of copying my buttons into his profile or do I need to re-type them in?

A. First export you function keys. Select: *File, Export, Export Function keys to file*, Select: *SSB/CW/Digital function keys*. Import the exported file into the program on the other computer by doing: *File, Import, Import Function keys to file*, Select: *SSB/CW/Digital function keys*.

Q. How to start a repeated CQ?

A. Ctl-R sets the repeat time (start with 2) . Alt-R toggles repeat mode on & off (Status bar Entry window should say: CQ Repaet is on) . Check the running indicator (repeated CQ only when running). Press the CQ key (mostly F1).

Q. There is a missing section or abbreviation for a section. Can I add it?

A. Yes, go to 'Config / Change Packet/CW/SSB/Digital Message Buttons' and select the table to edit.

Q. When in S&P mode hitting F1 should send CQ and automatically put me in Running mode. But not anymore...

A. CQ has to be in the button caption or the text to send for this to happen. So change your S&P F1 band caption from "F1 {my call}" to "F1 CQ", and change your CW message to your callsign.

Q. Is the score displayed anywhere?

A. Yes, the last pane in the status bar at the bottom of the Entry Window is the score. The middle pane shows Q's/Mults.

Q. Is my Sunrise and Sunset shown anywhere?

A. Yes, it is shown in the About window (View, About). The times are shown in GMT. Also local standard time is shown.

Q. I'm sure the shown score is not correct, what to do?

A. Do a rescore, this is a slow process so do it after the contest or only when you have not to much qso's

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If the score is still off and the log to send is Cabrillo then there is no problem because the score will be calculated by the ARRL, CQ etc.

If the log to send is not Cabrillo you have to edit the log file made by the program (you won't like that...)

Q. How do I change (CW/SSB/RTTY etc.) messages without retyping them?

A. Click on the message you want to change. The entire message will be highlighted. If you type now, the message will be deleted, and your typing will take its place. To insert characters or delete characters >from the message, click once again at the position you want to edit. Alternatively, press F2 and the cursor will be placed at the end of the text, at which point you may edit the message. This technique can be used anywhere you are able to edit a grid in the program.

Q. The program says: Can't find Master.dta etc.

A. Are you starting the program in its own directory?

I.e. if you have an icon for it, are you setting the Start in parameter to the directory in which the program is loaded? Master.dta must be in Program start-up directory (usually C:\Program Files\N1MM Logger).

Q. When I start N1MM logger it changes the mode (LSB/USB/CW) on the transceiver.

A. This is contest dependent. When a CW contest is selected (example: CQWW CW) the radio will automatically be placed in CW, the same for Phone contests but then it will be placed in SSB. When a contest is chosen which accepts both SSB and CW (Example: ARRL 10 Meter) the program changes nothing.

Q. How do you delete contest databases you don't want anymore ... i.e. those used for testing purposes.

A. A database is a .mdb file and contains multiple contests.

- Delete that file if you want all your contests to go away (I doubt it). You'll need to leave an empty ham.mdb around somewhere to replace it. Deleting a database can ****usually**** be undone by retrieving it from the recycle bin.
- A contest can be deleted by picking it in the contest selection dialog and pressing delete. Read the confirmation message and look at the number of rows carefully before deleting. Once a contest is deleted, it cannot be retrieved.

Q. How do you delete a row from a table i.e. the function keys, exchange abbreviations etc.

A. To delete a row, click on the row "handle" – the gray arrowhead – and press the delete key.

Q. How to print a Summary Sheet?

A. Go to 'View', 'Score Summary' and select 'Print Summary Sheet to File'. A file [callsign].sum will be made. Example: N1MM.sum

This is a normal ASCII text file which can be edited with any text editor before being sent to the contest manager.

Q. Why does Ctrl+Page+Up move the frequency UP, while Up+Arrow and PageUP move the frequency DOWN? (And vice versa).

A. Because lower frequencies are at the top of the bandmap and higher ones at the bottom. Ctrl-up jumps to a spot lower in frequency, but UP the bandmap. Ctrl-down does the opposite, etc.

Q. I added notes to some qso's but how to find them again?

A. Notes can be found on the comment field at edit contact. This is a bit difficult when you made a lot of qso's and want to find the notes again. An easy way is exporting to adif and using a text editor to find the notes (comments).

Q. How can I change the default mode to CW, on band maps, etc. I only use CW and would like to have that mode as default instead of having to go to the band maps to change from USB or LSB.

33.4

A. If you are in a cw contest, you don't need to do anything. If you are using the DX "contest", set the mode in the contest selection dialog to CW.

33.5 Digital modes

Q. The callsign to grab already scrolled of the screen (RX window), how to grab it now?

A. You can pause the RX screen by clicking on the green strip on the side which will pause the input and scroll back to where you need to and click on the callsign. To turn input to the window back on click in the pane again and everything that was to be printed to the window will now enter the window.

Q. A message "lost sound" briefly appears in the MMTTY waterfall.

A. Try to bring up the sound card buffers under Misc settings in the MMTTY setup or the combination of MMTTY and N1MM Logger may be too much for your processor.

Q. The MMTTY RTTY Engine panel is always on top of the other windows.

A. No, you can change this in the configuration dialog (Config/Configure Ports, Telnet Address, Other/ Digital Modes).

There is also the ability to choose between Full-size(Normal) window and Small window (without control panel)

Q. Strange things are happening on my 'slow' computer.

A. Example: Occasionally, the RTTY receiver screen would flicker during reception. Reason: MMTTY requires a minimum of a 133 MHz processor that combined with the main logger which Tom sets as a minimum needed as a 233 MHz and you get strange things happening.

Q. When opening the Digital Interface Window I get a Run Time error 7 – Out of memory

A. For MMTTY to work you need the file XMMT.ocx in the program directory, if not it will show this error.... The NewExe contains the file XMMT.ocx needed for MMTTY version 1.64 or higher and should be in the N1MM Logger directory after an update.

Q. Digital Interface file not found error

A. If you are experiencing a file not found error when trying to load the digital interface please look and see that you have the following files in these locations

- Regsvr32.exe – This should be in the same directory that your system files are kept Windows/System or System32
- PSKCore.dll – This needs to be in the same directory as the other files in the logger.
- MMTTY.exe – This needs to be in the same directory as the other files in the logger.
- XMMT.ocx – This needs to be in the same directory as the other files in the logger.
- MMTTY.ini – This needs to be in the same directory as the other files in the logger but if not there MMTTY will create it
- Userpara.ini – This needs to be in the same directory as the other files in the logger but if not there MMTTY will create it...

Q. I am able to transmit PSK or RTTY with MMTTY but I do not see any received signals displayed on the waterfall or any other screen.

Review your hookup. For starters, plug a jumper from your transceiver's "line out" to your soundcard microphone input...no interface required. If that works, then you have a problem interfacing. If it doesn't work it looks like a more fundamental problem, like the microphone input on the soundcard is not working. As a last resort, make sure you can receive PSK with another program.

Maybe just the microphone input is deselected. Check the following in Windows:
Open Control Panel, Open Multimedia, Click on Recording & make sure the microphone is selected.

Q. The frequency readout does not match the incoming spots in the bandmap on my transceiver

When using a transceiver with no dedicated digital mode for RTTY and the likes, you have to use the transceiver in LSB mode and soundcard RTTY. The problem is that the frequency readout does not match the incoming spots in the bandmap, and nor will the frequency be correct when spotting stations to the dx-cluster. The solution is to use a fixed mark frequency (ie. no or very limited AFC), and then subtract that frequency from the frequency readout by using the transceiver offset setting in the bandmap.

1. Set up for RTTY using LSB mode
2. Set mark frequency to 2000Hz (or the frequency of your choice)
3. Right-click in the bandmap
 - ◆ Set Transceiver offset to -2
4. Now the spot frequencies will match.

Q. It appears that CRLF's are displayed as a block character rather than going to the next line.

A. There is a replacement richtext files listed on the website that might correct seeing the block characters that represent a linefeed. This why there are 2 macros: {ENTER} and {ENTERLF}. Some OS's for some reason would not properly show a linefeed. If something scrolls off the screen because of the use of many linefeeds it is easy to click on the Pause strip and scroll back to see what was missed. One more click brings you back to where you were..

33.6 Yahoo Discussion Group

Q. If you think you get to much e-mail.

A. Do you want to reduce or eliminate the number of e-mail's you are receiving about this program?
Do the following:

Go to: <http://groups.yahoo.com/group/N1MMLogger> then select "Edit my membership". It is on the right, near the top. Then choose from the four choices:

- Individual e-mail's – Send individual e-mail messages
- Daily digest – Send many e-mail's in one message
- Only special announcements – Only send me important update e-mail's from the group moderator.
- No e-mail – Don't send me e-mail, I'll read the messages at the Web site
If you choose "No e-mail", I will only send you e-mail if a really serious bug develops (like one that loses your log data). So far, I have never had to, but I think it is important to have that capability.

Make sure to save changes.

DO NOT SUSPEND YOUR YAHOO ID. I will get bounce messages about your id, and remove it. Another way of handling many e-mail's is to use a filter to organize e-mail's into folders in your mail reader. Different readers will support this in different ways.

Q. Are you no longer receiving e-mail's from this group?

A. The reason may be that your e-mail has been "bouncing".

Yahoo keeps track of how many e-mail's are returned from the e-mail address that you give it. If too many are returned, you show up on a bounce list.

If you are on the bounce list, you no longer will receive e-mail's. Periodically, I go through the bounce list, and set your account to receive no e-mail's, and "unbounce" you. Once you have corrected the problem with your e-mail address, you can reset your options to individual e-mail's or daily digest as you prefer (see "Edit My Membership", "Message Delivery"). Note that if you are bouncing from other groups within Yahoo, those bounces count towards putting you on the N1MMLogger "bounce" list. I can't change this. Now that membership is no longer required to download, I delete all the bouncing id's from membership. You may rejoin at any time, but you'll need to correct the problem that caused you to bounce, or it will happen again.

Q. I have problems downloading files (from Yahoo).

A. There are many possibilities, below some frequent problems

- Do you have enough room on your hard disk? Having more than 10 MB free would be nice
- Already tried to download with the 'Save as' function. Right click on the file to download and select 'Save as' or equivalent.
- When using Netscape disable/remove Netscape Smart Download
- If this not works but you are using a '*download manager*', disable it and try again.
- ...

33.7 Other

Q. The program always transmits on VFO-A, how to transmit on VFO-B?

A. The program has two Entry windows, one for VFO-A (always open) and another for VFO-B. Making a qso on VFO-B, so transmitting on that VFO, you have to enter the info in the second Entry window. This window can be opened by entering a backslash \ in the call sign field of the standard Entry window.

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Q. Importing an ADIF file (not generated by N1MM logger) does not import the serial numbers

- Does the ADIF file you used have the correct serial numbers in the file?
- Does it use STX and SRX?
 - ♦ N1MM logger uses:
 - ◊ <SRX:1>3 for the received serial number (example nr = 3)
 - ◊ <STX:1>8 for the sent serial number (example nr = 8)
 - ♦ Maybe the file to import has to be edited.. when other than SRX and STX are used or are missing in the ADIF file to import. A search and replace could solve this problem.

Q. Delays with CW messages, would Winkey help?

A. The Winkey keyer will reduce your processor usage while sending CW to the same that it is while not sending CW. I.e. Winkey requires 0 cpu resource. (Not really zero, but so little you won't be able to see it.) If your system works adequately on SSB, then Winkey will solve your problems during CW. If it does not perform adequately during SSB operation, then Winkey will bring it to that SSB performance.

Q. The program gives "Radio not working"

A. This means that the program has received a frequency of zero or an invalid mode from the radio. This could be caused by rfi interrupting the comm, or potentially by bad config options. If you do not have a power supply for your radio interface, you should usually specify "always on" "always on" for dtr & rts. If you specified "handshake", you can get erratic results.

Q. The program won't accept the exchange send by the station.

A. This could be a bug or an operator who doesn't know what he is doing. The workaround is that you log the contact with whatever the program wants, then go edit it (Ctl-Y) to make it what it should be.

Q. The rig keys correctly with a direct paddle or keyer but not using the parallel circuit

A. Of course the circuit should be working (does it work with other programs?). Assuming the rig is attached to LPT1. Go to Control Panel / System / Device Manager / Ports / LPT1 / Resources and check the input/output range.

Normally LPT1 is 378, LPT2 is 278 and LPT3 is 3BC. Note the address and update the address in N1MM logger (Configurer | Hardware tab | Other from LPT1,2,3)

Q. How do I know if dlportio is properly loaded?

A. Control Panel > System > Hardware > Device Manager > View > Show hidden devices > non-Plug&Play drivers

Q. How to test BCD on the LPT port?

A. Take a Digital Volt Meter and measure the voltage on the BCD info pins with respect to ground. Look at what band you're on, measure voltages (0V for logic 0 and 5V for logic 1), compare with the table in the interfacing section of the N1MM website.

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The Effect of the Diet on the Blood Sugar in the Atherosclerotic Individual

Q. How does N1MM logger know the time difference between PC and UTC?

A. The program uses the Windows time settings. Basically you tell Windows the current time, and your time zone (including summer time / daylight saving), and from these two Windows can always calculate the UTC time.

Q. How to setup the time on the computer.

A. There are two options

- Run your computer in *local time* with the correct daylight time choice selected (recommended). The GMT Time will change correctly in the middle of the contest.
- Run your computer with the time zone set to Monrovia (*GMT time*). There is a bug in some versions of Windows that makes the London time work incorrectly

Q. I have used the wrong type of contest, what to do?

A. Is there a quick way of converting the log or do I have to copy all the contacts by hand.

No not really but it can be done. This example is for converting >from DX to CQWW SSB.

1. Back up your database. Omit this step at your peril.
2. Export the log using ADIF.
3. Edit the ADIF log until it has all of the columns you want. Use global change &replace to fix the types.
4. I'm sure your zones are probably in the wrong column, you'll need to change the type. To find the type, create a sample log for CQWW and export that (ADIF format). Make the CQWW SSB exported ADIF log look like the DX exported ADIF log.
5. Change all contest IDs in the entire ADIF file. For example, change from
<CONTEST_ID:2>DX into <CONTEST_ID:7>CQWWSSB.
Note: for the CQWW contests, Logger is looking for the ID CQWWSSB or CQWWCW, not CQWW as produced by some ADIF conversion programs. (See the sample log you made in the step above).
6. Start a new CQWW SSB contest (the date doesn't matter in the choose contest dialog).
7. Import the modified ADIF file into the new contest.
8. If the score is wrong, rescore (I think it will be correct).

Q. How to import a single contest out of the database to another database (could be on another computer)

A. My general logging program is interacting nicely with N1MMLogger by means of the ADIF output/input! That's what ADIF was designed for, in the first place (amateur data INTERCHANGE format). You can edit the ADIF in a simple ASCII-editor to change field names and do an auto-search-and-replace if needed. Works great to import a few hundred QSO's after a contest and still keep track of DXCC, WAS, WAZ etc... as well as print QSL cards.
Use in N1MM logger in the file menu **Export / Export ADIF to file...** Use the ADIF import function in the general logging program.

Q. How to import my contest log into my general logging program

A. A database is an .mdb file. A database can hold any number of contests (including dx logs). If you want to copy a contest from one database to another, you must first recreate the contest in the new database.

1. Export the log (**Export ADIF to file...**).
2. Copy the ADIF file to a disk
3. Recreate an empty contest from the same type (example: CQWWSSB) on the new computer.
4. Import the ADIF file (**Import ADIF from file...**)

Q. I use ADIF but it does not import in my logbook program

When transferring data from N1MM logger to a logbook program the best choice would be the ADIF. Export from N1MM logger which will create a file with an extension of adi. Example: on5zo.adi. use the import function from your logbook program to import the records. A ADIF file is just a big text file which can be opened with a text editor like Notepad. Many series of lines will be shown with one qso (record) per line. Each field like call, name, band, etc is transferred with a descriptor, a length, and a data value. Example, if you work Frank, ON5ZO on 160 meters, the line corresponding record with the qso will show the following **<call:5>ON5ZO <band:4>160M** and more. The **<call:** means the data name is the callsign, the **5>** means the value is 5 characters long and ON5ZO is the data. There is a standard for each field and if they don't match between the exporting and importing program, that data will not be transferred. Example: when the exporting program uses "grid" but the importing logbook program wants "gridsquare" this field won't be imported. Sometimes the exporting program uses **arrrl_sect** when it should be **state** for the importing program. A possibility to import this information is changing all **arrrl_sect** fields with **state**. This is called a global replace. Look for these differences when importing.

Q. My computer lost a lot of time during the contest.

During a 48 hours contest we lost about 10 minutes. Windows is known to do this during heavy usage of the computer.

This is both a question and a warning. Check your time. I don't think 10 minutes will concern the log checkers, but it's just smart to watch it.

There are tools for resyncing your time with Internet time standards. A nice one used by N1MM logger users are Dimension 4 and About Time

Q. Dimension 4 and AboutTime give an error under Windows XP ('error binding socket address')

A. Under Windows XP Dimension 4 and About Time have a conflict with the internal timesync program which is included in Windows XP. Dimension 4 and About Time can be set up to update much often than the internal timesync from Windows XP.

Below how to get Dimension 4 and About Time working under Windows XP. Disable the internal Windows timesync, this action can be reversed..

- In Control Panel go to: Date and Time/Internet Time.
 - ◆ Check that "Automatically synchronize with an internet time server" is *not* checked
- In Control Panel go to: *Admin Tools* and select *Services*
 - ◆ Select in Services: *Windows Time*
 - ◆ Right click for properties.
 - ◇ **Disable** the *Set Startup Type*
 - ◇ **Stop** the *Service Status*

Q. The internal Windows XP timesync function only updates once every day. How to let it update more often?

A. To change the interval, a change has to be made in the registry. If you are not comfortable with that use Dimension 4.

- Start Regedit
- go to: HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\W32Time\TimeProviders\NtpClient
- Select "SpecialPollInterval"
- The value shown is the value in seconds
 - ◆ Default value: 604800 (one week)
 - ◆ Update every day = 86400 (seconds)
 - ◆ Update every hour = 3600 (seconds)

Q. How to place the downloaded software on multiple disks so I can install it on another computer.

Answer 1 – Download the base file in 5 parts from the N1MM website and select in the left menu: Other Files.

Answer 2 – Download the big N1MM.zip file to a hard drive following the instructions. Then use a program like Winzip. The instructions for Winzip follow:

WinZip makes it easy to create Zip files that "span" multiple disks. This is useful if the files you are working with will not fit on one disk.

To make a Zip file that spans multiple disks, simply create a Zip file on a removable disk, then add files to the Zip as you normally would. If the disk fills during Add operation, you will be prompted for another disk. Simply insert the next disk and click the OK button. Important: disk spanning is not available when adding files to an existing archive; it is only available while creating a new archive. Also note that you cannot add or remove files from a Zip file that spans disks. WinZip requires pre-formatted disks (you can format disks using My Computer or the Windows Explorer).

Example:

To zip the files in your c:\data folder to a Zip file called A:\DATA.ZIP:

1. Start WinZip.
2. Drag and drop the c:\data folder from My Computer or the Windows Explorer to the WinZip window.
3. In the Drop dialog box, type the filename of the Zip file (A:\DATA.ZIP).
4. Click the Add button.

If more than one disk is needed, you will be prompted for additional disks.

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34 Supported Hardware

34.1 Winkey

Winkey is an external keyer designed by K1EL and G3WGV. The goal for the keyer is to interface with various Windows programs and to avoid CW timing problems caused by multitasking. Winkey is fed ASCII characters from N1MM Logger (via COM port only), and converts the ASCII to timed CW. For more info see the [links page](#).

This keyer eliminates any hesitation that occurs from scheduling multiple tasks under Windows. It is also a really sweet standalone keyer. To enable the key, choose a com port for it from the Hardware tab. Check the Winkey option after pressing Set for that com port. Winkey options can be set on the Winkey tab of the Configurer.

- Computer speed is independent of keyer speed.
- Selectable sidetone frequency.
- CT spacing is supported.
- Paddle speed changes are shown on the status bar.
- Four keying modes supported. They are: Iambic A, Iambic B, Ultimatic and Semi-Automatic (Bug). The default is Iambic B mode.
- Computer sending (and repeat) stops when paddles are touched.
- Supports call correction.
- The potentiometer is to control the paddle speed (only). Logger CW speed setting is to only control CW generated by Logger. The goal is to simulate an independant keyer for quick QRS/QRQ or emergency keying.
- One CW output plus choice of:
 - ◆ 2nd CW output
 - ◆ Sidetone
 - ◆ PTT
- Two radio support, Winkey will switch between pin 5 and pin 3 for two radios.
- Only Winkey v4 and later are supported. A warning will be shown if a non supported version is being used.

The left pane of the Entry window gives information about the Winkey keyer, some examples:

- Winkey paddle speed = 32
- Winkey Version = 4
- Winkey buffer 2/3 full

 When you are serious about contesting always run the K1EL keyer from a battery and not (only from) the serial port. When you have to reboot your PC for any reason the keyer will still function with an external battery, it won't if powered from the serial port. This will be a frustrating reboot...

 Winkey needs a dedicated COM port.

34.1.1 Why Winkey?

WinKey works totally different from conventional keyers, but on a user level, you don't notice that: it just keys your rig like other interfaces. The benefit is on slower PC's, where LPT or com port keying might be 'stuttering' because the PC has other tasks to do while processing the CW. Or on newer PC's or laptops, that might not have LPT's or (too few) com ports but plenty of USB. Doing CW with

an ordinary COM–CW interface does not work on a USB–to–serial converter, WinKey should work just fine through such a device, because rather than being triggered by voltage levels, it exchanges text strings.

Other than that, K1EL has made WinKey also a good stand–alone keyer for the price I've seen commercial 'dumb' LPT interfaces being sold. And it can be used to write your own software (should you want to) without going through the hassle of solving timing problems that come with sending CW with a PC. Ask Tom what a pain that is! That's because WinKey is intelligent and 'talks' with the PC by exchanging ASCII text strings, and then processes these strings with its own built in logic to CW, rather than CW being generated on the PC itself.

34.2 *RigBlaster*

CW and Digital setup

Inside the RigBlaster Plus set the following jumpers on the P5 jumper block: D9 and D12, corresponding to RTS on PTT and DTR on KEY. Switch the port on which the RigBlaster is set from DIGITAL to OTHER. In N1MM's configuration use DTR (pin 4) set to CW and RTS (Pin 7) set to PTT. Using this configuration, everything works properly generating CW from N1MM and furthermore, this combination will allow the other soundcard related things to work (MMTTY, SSTV, PSK, Voice Key Express, etc). (by

SSB setup

- Serial port setup (configurer)
 - ◆ Com2 (any com port will do)
 - ◆ DTR: Always OFF
 - ◆ RTS: PTT
- On the RigBlaster itself
 - ◆ Set the Tx/Auto switch to Auto.
- Sound Volume Level (last tab of the configurer)
 - ◆ Volume level (about): 40000.
 - ◆ Wav Volume level (about): 40000.

With it set up this way, it correctly mutes the microphone while transmitting a wav file and the vox works when not transmitting a wav file.

34.3 *Top Ten Devices* automatic band decoder

To replicate the default **Top Ten Devices** behavior, you would need to set up the Antenna tab in Configurer as shown in the [Interfacing section](#).

34.4 Transverters

N1MM logger has transverter support in the form that per bandmap an offset frequency can be set. Right click menu bandmap and select **Set transceiver offset frequency**. Enter the transceiver offset frequency in kHz (minus is allowed). Example: 116000 when using a transverter from 28 MHz to 144 MHz (144000 – 28000 = 116000). The same for other bands (up or down). This can be set per bandmap so when using two transceivers with transverters they can each be on a different band. The offset is saved by the program so after a restart the offset is still there.

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DEPARTMENT OF THE HISTORY OF ARTS
AND ARCHITECTURE

CHICAGO, ILLINOIS

1950

TO THE HONORABLE CHAIRMAN OF THE BOARD OF TRUSTEES

OF THE UNIVERSITY OF CHICAGO

DEAR SIR:

I have the honor to acknowledge the receipt of your letter of the 14th inst.

and in reply to inform you that the same has been forwarded to the

proper authorities for their consideration.

I am, Sir, very respectfully,
Yours truly,
[Signature]

THE UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

1950

TO THE HONORABLE CHAIRMAN OF THE BOARD OF TRUSTEES

OF THE UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

1950

34.5 CW decoders

No CW decoder is built in nor any external CW decoder is supported.

34.6 Rotators

Rotator control is not supported by the program yet (but under development).

35 Supported Contests

35.1 General contest logging (all modes)

<i>Contest</i>	<i>Jump to</i>	<i>Remarks</i>
DX (General log)	<u>Setup</u>	Sent RST, Received RST fields, Name and Comment field
DXPEDITION	<u>Setup</u>	Only has Sent and Received RST fields
DXSATELLIT	<u>Setup</u>	Only three fields: Call, Grid and Satellite
VHFDX	<u>Setup</u>	Sent RST, Received RST fields, Grid and Comment field

35.2 Supported HF CW/SSB contests are:

All contests are supported 'both' sides unless specifically mentioned.

<i>Contest</i>	<i>Jump to</i>	<i>Website</i>	<i>Remarks</i>
All Asian DX contest CW / SSB	<u>Setup</u>	<u>Website</u>	CW – Third Saturday of June (48 hours) SSB – First Saturday of September (48 hours)
All Asian DX contest CW / SSB	<u>Setup</u>	<u>Website</u>	CW – Third Saturday of June (48 hours) SSB – First Saturday of September (48 hours)
ARI International DX Contest	<u>Setup</u>	<u>Website</u>	Dupe Sheets not always required for this contest, see ARRL Field Day <u>Setup</u> instructions. Info by Dan Henderson, N1ND from the ARRL contest branch.
ARRL 10 Meter contest	<u>Setup</u>	<u>Website</u>	
ARRL 160 Meter contest	<u>Setup</u>	<u>Website</u>	
ARRL Field Day contest	<u>Setup</u>	<u>Website</u>	
ARRL International DX contest CW /Phone	<u>Setup</u>	<u>Website</u>	
ARRL International DX contest Phone	<u>Setup</u>	<u>Website</u>	

ARRL November Sweep Stakes CW / SSB	Setup	Website	
Asia-Pacific Sprint Contest	Setup	Website	In Spring, Summer, Fall (2 hours)
Baltic contest	Setup	Website	Every year the last but one weekend in May – one week before WPX CW Contest
CQ World-Wide 160 Meter DX Contest – CW / Phone	Setup	Website	
CQ World Wide DX contest – CW / SSB	Setup	Website1 Website2	CW – Last full weekend of November (48 hours) SSB – Last full weekend of October (48 hours)
CQ World Wide WPX contest – CW / Phone	Setup	Website	
CIS DX contest	Setup	Website	Commonwealth of Independent States
Cup of the Russian Federation (RFC) contest	Setup		Internal Russian contest in January.
DARC 10 meter contest	Setup	Website	2nd full weekend in January.
DARC Weihnachtswettbewerb (XMAS contest)	Setup	Website	December 26
European Sprint – CW / Phone	Setup	Website	In April and October (both modes) (4 hours)
FOC Marathon	Setup	Website	First full weekend in February
Helvetia Contest	Setup	Website	
HA DX contest	Setup	Website	3rd full weekend of January
IARU Radiosporting contest HF	Setup		According rules for Belgium, Germany, Great Britain, Switzerland, Ireland (only CW) and Russia (UA, UA2, UA9).
IARU Region 1 Fieldday contest	Setup		
IOTA	Setup	Website	
NA Sprint – CW / SSB	Setup	Website	CW: First Sunday in February SSB: Sunday of first full weekend in February CW: Sunday following first Monday in September SSB: Second Sunday following first Monday in September

North American QSO Parties (NAQP) – CW / SSB	Setup	Website	CW: Second full weekend in January SSB: Third full weekend in January
NRAU–Baltic contest	Setup	Website	2nd full weekend in January.
PACC contest	Setup	Website	First full weekend of February
RAC Canada Day and Winter contest RAC Canada Winter Contest	Setup	Website	Both contests have the same rules.
REF DX contest	Setup	Website	CW: last weekend of January SSB: last weekend of February
RSGB Jubilee	Setup		
Russian DX	Setup	Website	
Russian YL/OM contest	Setup	Website	Website in Russian
SAC	Setup	Website	
SP DX contest	Setup	Website	First full weekend of April (15:00–15:00 GMT)
Stew Perry Topband Distance Challenge	Setup	Website	Last full weekend of December
UBA DX Contest CW/SSB	Setup	Website	SSB: last weekend of January CW: last weekend of February
UK DX Contest – CW/SSB	Setup	Website	
WAEDC–Contest	Setup	Website	The starter for the new Contest season.
Worked All Germany (WAG) contest	Setup	Website	October, third full weekend

35.3 QSO Parties (CW/SSB)

The QSO parties below are supported. There are some scoring anomalies though. The QSO parties use a configuration file named 'County.sec' with the used sections per qso party. See the [Setup](#) for more information.

35.3.1 United States

QSO party		QSO party		QSO party		QSO party	
Alabama (AL)	Website	Alaska (AK)		Arkansas (AR)	Website	California (CA)	Website
Delaware (DE)	Website	Florida (FL)	Website Setup	Georgia (GA)	Website	Hawaii (HI)	Website
Indiana (IN)	Website	Illinois (IL)	Website	Kansas (KS)		Kentucky (KY)	Website

Louisiana (LA)	Website	Maryland DC (MD)	Website	Michigan (MI)	Website	Minnesota (MN)	Website
Missouri (MO)	Website	Montana (MT)		Nebraska (NE)	Website	New England (NEWE)	Website
North Carolina (NC)	Website	New Jersey (NJ)	Website	Nevada (NV)	Website	Ohio (OH)	Website
Oklahoma (OK)	Website	Oregon (OR)	Website	Pennsylvania (PA)	Website Setup	South Carolina (SC)	Website
South Dakota (SD)		Tennessee (TN)	Website	Texas (TX)	Website	Vermont (VT)	Website
Virginia (VA)	Website	Wisconsin (WI)	Website	Washington State Salmon Run Contest (WA)	Website	West Virginia (WV)	Website

35.3.2 Canada

QSO party	
Ontario (ON)	Website

35.4 Supported VHF CW/SSB contests are:

Contest	Jump to	Website	Remarks
ARRL January VHF Sweepstakes	Setup	Website	January
ARRL June VHF QSO Party	Setup	Website	June
ARRL September VHF QSO Party	Setup	Website	September
IARU Region 1 50 MHz contest	Setup	Website	Only 50 MHz – June
IARU Region 1 144 MHz September contest		Website	Only 144 MHz – September
IARU Region 1 UHF/Microwaves October contest		Website	UHF and Microwaves – October
Other Region 1 VHF and up contests		Website	VHF and up – March, May, July
Marconi CW contest 144 MHz / 50 MHz	Setup	Website	
REF Departments contest 50 Mhz	Setup	Website	Only 50 MHz

UKSMG sporadic-E competition	Setup	Website
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35.5 Supported RTTY/PSK contests are:

All contests are supported 'both' sides unless specifically mentioned.

Contest	Jump to	Website	Remarks
ANARTS WW RTTY contest	Setup	Website	Second full weekend of June
Anatolian RTTY contest	Setup	Website	3rd full weekend in May
ARRL RTTY Roundup	Setup	Website	First full weekend of January (not on January 1)
BARTG RTTY Spring contest	Setup	Website	3rd full weekend in March
BARTG RTTY Sprint contest	Setup	Website	January
CQ World Wide DX contest – RTTY	Setup	Website	Last full weekend of September (48 hours)
CQ World Wide WPX contest – RTTY	Setup	Website	First full weekend of February
CIS DX RTTY contest	Setup	Website	Commonwealth of Independent States
DL-DX RTTY contest	Setup	Website	First full weekend of July
EA RTTY contest	Setup	Website	First full weekend of April
JARTS WW RTTY contest	Setup	Website	3rd full weekend in October
OK DX RTTY Contest	Setup	Website	3rd full weekend in December
Quick PSK63 Contest	Setup	Website	PSK63. Uses SARTG rule. First Saturday of September
NA Sprint – RTTY	Setup	Website	Sunday of second full weekend in March Sunday of second full weekend in October
North American QSO Parties (NAQP) – RTTY	Setup	Website	Last full weekend in February
SARTG New Year RTTY Contest	Setup	Website	January 1st
SARTG WW RTTY Contest	Setup	Website	Third weekend in August
SCC RTTY Championship	Setup	Website	Last full weekend in August
SP DX RTTY contest	Setup	Website	4th full weekend of April
TARA PSK Rumble	Setup	Website	PSK31. First Saturday of October

UK DX Contest – RTTY	Setup	Website	
XE RTTY contest	Setup	Website	
Volta RTTY Contest	Setup	Website	
WAEDC RTTY Contest	Setup	Website	Second full weekend in September

36 Contest Setup Instructions

36.1 General

When a contest has a specific mode (SSB, CW or RTTY) then the *Sent Exchange* is automatically changed to that mode. So when you select CQWWSSB for the CQ World Wide SSB contest the *Sent Exchange* will be set by the program to SSB. You can change this but that will give wrong Cabrillo output and maybe even erroneous behavior of the program, so don't!!

If the selected contest doesn't have a specific mode the program will set the *Sent Exchange* to *Mixed*.

Also the radio will be set on all bands to the mode set. The frequency though is not being changed to the CW/SSB/RTTY section of the band.

This is a contest program but for general logging you can use **DX** as the selected contest if you want. Dupes are allowed and an exchange is not necessary.

To import a contest in your regular logging program use ADIF export (and ADIF import in your general logging program).

When going through the possible contests you will see a "contest" DELETEDQS.

This is not a contest but deleted qso's will be put in here by the program, this is especially for multi-user support. Deleted qso's in this contest can be exported.

The next qso number will be shown on the title bar of the info window if it is a serial number contest. Example: Exch: 59 002

The maximum receive number is 32767 (for serial number contests).

In **multi user** mode, serial numbers are by band in serial number contests. The WPX contest does support that.



Note: Always read the contest instruction from the contest committee prior to the contest.

Then you know how to set up the program, what exchange to give and what to expect in return, which hours to operate etc.

36.2 General contest logging

36.2.1 DX log

Window: Select Log type

- ◆ Log Type: *DX*
- ◆ Mode Category: *Mixed* If you want to have the possibility making SSB and CW contacts.

For general or DX logging.

- ◆ Entered qso's in General log (or DX log) don't need to have an exchange.
- ◆ Dupes are shown by the word Dupe! but the qso can be logged.

36.2.2 DXpedition

Window: Select Log type

- ◆ Log Type: *DXPEDITION*
- ◆ Mode Category: *Mixed* If you want to have the possibility making SSB and CW contacts.

For DXpedition logging.

- ◆ Entered qso's in the DXPEDITION log don't need to have an exchange.
- ◆ Dups are shown by the word Dupe! but the qso can be logged.

36.2.3 DX satellite

Window: Select Log type

- ◆ Log Type: *DXSATELLIT*
- ◆ Mode Category: *Mixed* If you want to have the possibility making SSB and CW contacts.

For Satellite logging.

- ◆ Entered qso's in the DXSATELLIT log don't have an exchange and don't need to have a grid.
- ◆ When a grid is entered it needs to be 4 or 6 characters long.
- ◆ Dups are shown by the word Dupe! but the qso can be logged.

36.2.4 VHF DX

Window: Select Log type

- ◆ Log Type: *VHF DX*
- ◆ Mode Category: *Mixed* If you want to have the possibility making SSB and CW contacts.

For VHF and up logging.

- ◆ Entered qso's in the VHF DX don't need to have a grid.
- ◆ When a grid is entered it needs to be 4 or 6 characters long.
- ◆ Dups are shown by the word Dupe! but the qso can be logged.

36.3 HF CW/SSB contests

36.3.1 All Asian CW / SSB

The All Asian contest can be used by Asian stations and DX stations.

- Window: Select Log type

- ◆ **CW**

- ◆ Log Type: *ALLASIACW*
- ◆ Sent Exchange: *Your age* Example: 34
· *XYL and YL stations may give 00*

- ◆ **SSB**

- ◆ Log Type: *ALLASIACW*

- ◇ Sent Exchange: *Your age* Example: 34
- *XYL and YL stations may give 00*

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an Asian station or a non-Asian station.

36.3.2 ARI International DX Contest

The ARI International DX contest can be configured for Italian stations and DX stations.

- Window: Select Log type
 - ◆ Log Type: *ARIDX*
 - ◆ Sent Exchange:
 - ◇ *001* for non-Italian stations
 - ◇ *Your Province* for Italian stations

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an Italian station or a DX station.

36.3.3 ARRL 10 Meter contest

The ARRL 10M contest can be used by K/VE stations and DX stations.

- Window: Select Log type
 - ◆ Log Type: *ARRL10M*
 - ◆ Sent Exchange:
 - ◇ *Your state/province* – for K/VE stations Example: NY
 - ◇ *001* – for DX stations (non K/VE)

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX station or a W, KH6, KL7, VE station.

36.3.4 ARRL 160 Meter contest

The ARRL 160M contest can be used by K/VE stations and DX stations.

- Window: Select Log type
 - ◆ Log Type: *ARRL160* (**not** ARRL160M if shown)
 - ◆ Mode Category: *CW*
 - ◆ Sent Exchange:
 - ◇ *ARRL/RAC section* – for ARRL/RAC stations Example: VI
 - ◇ *<nothing>* – DX stations don't need to enter anything here (non K/VE), DX stations only send a report, no further exchange.

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX station or an ARRL/RAC station.

The ARRL/RAC stations are: K, VE, KL, KC6, KG4, KH1, KH2, KH3, KH4, KH5, KH6, KH7, KH8, KH9, KP1, KP2, KP3, KP4 and KP5.

The contest module accepts for /MM and /AM stations as ITU zones: R1, R2 or R3.

36.3.5 ARRL Field Day contest

The ARRL Field Day contest can only be used by US (K, KL and KH) & Canada stations (i.e. there are more FD contests outside the US & Canada which are not supported).

- Window: Select Log type
 - ◆ Log Type: *FD*
 - ◆ Sent Exchange:
 - ◇ *Your Class* *Your section*

Here is word from Dan Henderson from the ARRL contest branch on using Cabrillo for your log submission.

Field Day is not included in the Cabrillo format. It has no way to mark/indicate power sources, GOTA station callsign's, bonus points, NTS traffic messages, etc. Also, Field Day only requires Dupe Sheets, not full logs. It is perfectly acceptable to include the Cabrillo log in lieu of the Dupe Sheets, but Field Day must have a completely filled out Summary sheet that includes all necessary information. This can be done with a "reasonable facsimile" electronically. However, since "proofs of bonus" (i.e. copies of letters to newspapers, visitor logs, photos, etc) are abundantly provided, most people find it easier to do Field Day via the regular mail – and use a combined system of part-electronic added to the paper summaries. Anything received electronically for Field Day will be receipted but we may have to manually follow up if we can't get the basic required information from the email.

73' Dan Henderson, N1ND

36.3.6 ARRL International DX contest – CW / SSB

- Window: Select Log type
 - ◆ **CW**
 - ◇ Log Type: *ARRLDXCW*
 - ◇ Mode Category: *CW*
 - ◇ Sent Exchange: *Your state/province* – for K/VE stations Example: NY
 - ◇ Sent Exchange: *Power* – for DX stations (non K/VE) Example: 200
 - ◆ **SSB**
 - ◇ Log Type: *ARRLDXSSB*
 - ◇ Mode Category: *SSB*
 - ◇ Sent Exchange: *Your state/province* – for K/VE stations Example: NY
 - ◇ Sent Exchange: *Power* – for DX stations (non K/VE) Example: 200

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX stations or a W/VE station.

The default power for DX stations is

- ◆ 100 Watts – Default
- ◆ 200 Watts – For the following countries: UA, UA2, UA9, UK, UN, UR, R1FJ, R1MV
- ◆ 400 Watts – For the following countries: G, GM, GI, GD, GM, GM/s, GW
- ◆ 500 Watts – For the following countries: I, IS, IT9

Give 'Space' when the cursor is in the 'Power' field to have it filled with the default power.

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1. The first part of the experiment involves the preparation of a solution of sodium acetate. This is done by weighing a precise amount of sodium acetate and dissolving it in a known volume of water. The resulting solution is then used in the subsequent steps of the experiment.

2. The second part of the experiment involves the titration of the sodium acetate solution with a standard solution of hydrochloric acid.

3. The third part of the experiment involves the measurement of the pH of the resulting solution. This is done using a pH meter, which is calibrated using standard buffer solutions.

4. The final part of the experiment involves the calculation of the equilibrium constant for the reaction between sodium acetate and hydrochloric acid. This is done using the measured pH and the known concentrations of the reactants and products.

The default power will be selected, so that if you type another power level, it will replace the default power that the program put in there.

Some stations give K or KW for 1000 watts. You don't have to enter 1000, just type K. The log checking software will understand.

36.3.7 ARRL November Sweep Stakes – CW / SSB

- Window: Select Log type

- ◆ **CW**

- ◇ Log Type: *SSCW*
- ◇ Mode Category: *CW*
- ◇ Sent Exchange: *Precedence Year first licensed ARRL/RAC section*
Example: B 70 EMA (and in this order!)

- ◆ **SSB**

- ◇ Log Type: *SSSSB*
- ◇ Mode Category: *SSB*
- ◇ Sent Exchange: *Precedence Year first licensed ARRL/RAC section*
Example: B 70 EMA (and in this order!)

Spaces are required in the exchange except between the nr & prec. You may put the exchange elements in out of order and repeat them. The last one will be used.

The cursor is positioned at the end of the exchange when swapping radios.

1. Select log type and mode
2. In the contest selection dialog, enter B 55 CT or whatever you Prec, ck & section are.
3. Right click on the CW message buttons and change F2 to: #{Exch}. If you have separate run & S&P buttons, you may have to do it twice.
4. If you want or don't want leading T's for the numbers, check the appropriate box in the configurer.

Sweepstakes has different support in the logging program from any other contest because it is a five part exchange (call, nr, prec, ck, section). There are two text boxes for this and not six. The first is for the call. The second is for ALL five. The larger (second) textbox will allow you to enter any of the exchange elements in any order. There are some rules that are used to interpret ambiguous information, but you can always look at the frame above the textbox to tell what the program thinks you are trying to log.

Here are some examples of exchanges and what they mean:

261 A 55 CT	261A 55 CT
12B Q CT 61	12B 61 CT
12B Q CT 61 EMA 44	61Q 44 EMA
CO CT 12 13 B	12B 13 CT
12A W1XX CT 66	12A W1XX 66 CT W1XX overrides call in call textbox

The rules are:

(You must enter a space between parts, except between nr & prec.)

Rule 1, parse from RIGHT to LEFT

Rule 2, when you find a token of a certain type, stop looking for that type

Rule 3, Nr = 1 or 3+ digit number

Rule 4, CK = 2 digit number

Rule 5, Section = 2 character or more alpha token

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Rule 6, Prec = 1 digit alpha token

Rule 7, If there is one two digit and one three digit number, than the two digit is the ck & the three digit is the nr.

Rule 8, If there are just two numbers and they are both 2 digits, the first is the nr, the second the ck.

Try it. It's easier to use than it is to describe.

Examples playing WAV files using ESM.

Example 1 – You speak the callsign from the station

- Put a space in the callsign button.
 - ◆ This replaces the advice to put empty.wav in the callsign button. Use a single space.
- Now what you do is speak the call, Nr 123, then press enter. Your exchange wav file should be something like "Bravo, N1MM, Check 61 Connecticut"

Example 2– The program speaks the callsign from the station

- Put ! in for the callsign wav file. That will speak the call.
- Put **#wav\ssexch.wav** in for the exchange wav file.
 - ◆ Don't forget the #, this will send the nr
 - ◆ wav\ssexch.wav will send your exchange file (obviously, substitute the name of your exchange wav file)
 - ◆ Now ESM will say when responding to W1AB this when pressing enter: **Whiskey One Alpha Bravo One Two Three Bravo, N1MM, Check 61 Connecticut**

36.3.8 Asia–Pacific Sprint Contest CW / SSB

- Window: Select Log type
 - ◆ **CW**
 - ◇ Log Type: *APSCW*
 - ◇ Mode Category: *CW* (spring and fall)
 - ◇ Sent Exchange: *001*
 - ◆ **SSB**
 - ◇ Log Type: *APSSSB*
 - ◇ Mode Category: *SSB* (summer)
 - ◇ Sent Exchange: *001*

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX stations or an Asia–Pacific station.

36.3.9 Baltic contest

The Baltic contest can be configured for stations from the Baltic countries (ES, YL, LY) and DX stations.

- Window: Select Log type
 - ◆ Log Type: *BALTIC*
 - ◆ Sent Exchange: *001*

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX station or a Baltic station.

36.3.10 CQ 160 Meter DX contest – CW / SSB

- Window: Select Log type
 - ♦ **CW**
 - ◊ Log Type: CQ160CW
 - ◊ Mode Category: CW
 - ♦ **SSB**
 - ◊ Log Type: CQ160SSB
 - ◊ Mode Category: SSB
 - ◊ Sent Exchange:
 - *Your state/province* – for K/VE stations Example: NY
 - *Your country abbreviation* – for DX stations (non K/VE)

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX stations or a W/VE station.

36.3.11 CQ World Wide DX contest CW / SSB

- Window: Select Log type
 - ♦ **CW**
 - ◊ Log Type: CQWWCW
 - ◊ Mode Category: CW (spring and fall)
 - ◊ Sent Exchange: *Your zone* Example: 14
 - ♦ **SSB**
 - ◊ Log Type: CQWWSSB
 - ◊ Mode Category: SSB (summer)
 - ◊ Sent Exchange: *Your zone* Example: 14
- The default zone values for US (K,N,W,A) stations are
 - ♦ Zone 3 – If number in callsign is 6 or 7
 - ♦ Zone 4 – If number in callsign is 5 or 8 or 9 or 0
 - ♦ Zone 5 – If number in callsign is 1 or 2 or 3 or 4
- The default zone values for Canadian (VE) stations are
 - ♦ Zone 1 – If callsign starts with: VY1
 - ♦ Zone 2 – If callsign starts with: VE2, VO2
 - ♦ Zone 3 – If callsign starts with: VE7, VC7
 - ♦ Zone 4 – If callsign starts with: VE3, VE4, VE5, VE6, VA3
 - ♦ Zone 5 – If callsign starts with: VO1, VE1, XJ1, VY2
- Give 'Space' when the cursor is in the 'Callsign' field to have the 'Zone' field filled with the default value.
- The default zone will be selected, so that if you type another zone, it will replace the numbers that the program put in there.
- For US users, Ctrl-up/dn doesn't stop at US stations.
- US spots are not grayed out for Canadian users
- Don't show and count own countries as workable in the Bandmaps and the Available window
- A new zone will be shown in red in the Entry window
- Band changes
 - ♦ The allowed band changes are 8 for all CQ Contests
 - ♦ The band change counter is reset to 0 on first contact after the top of the hour
- The program will look up the zone if the call has been changed, provided no zone was typed by the user.

36.3.12 CQ World Wide WPX contest – CW / SSB

- Window: Select Log type
 - ◆ **CW**
 - ◇ Log Type: *CQWPXCW*
 - ◇ Mode Category: *CW*
 - ◇ Sent Exchange: *Serialnumber* Example: 001
 - ◆ **SSB**
 - ◇ Log Type: *CQWPXSSB*
 - ◇ Mode Category: *SSB*
 - ◇ Sent Exchange: *001* i.e *Serialnumber* Example: 001
- Leading zeros are being forced on sent & received serial numbers.
- Band changes
 - ◆ The allowed band changes are 8 for all CQ Contests
 - ◆ The band change counter is reset to 0 on first contact after the top of the hour
- In multi user, serial numbers are by BAND. Make sure you don't operate both radios on the same band at the same time, and you should be ok. The WPX contest committee is ok with numbers by band for multi user.

36.3.13 CIS contest – CW / SSB

The Commonwealth of Independent States Contest where everybody can work everybody for QSO and multiplier credit.

- Window: Select Log type
 - ◆ Log Type:
 - ◇ **CW**: *CISCW*
 - ◇ **SSB**: *CISSSB*
 - ◆ Sent Exchange:
 - ◇ CIS stations: *CIS area code* Example for Moscow City: RU11
 - ◇ Non-CIS stations: *001*

36.3.14 Cup of the Russian federation (RFC) contest – CW / SSB

The RFC Contest is an internal Russian contest only between Russian stations.

- Window: Select Log type
 - ◆ Log Type:
 - ◇ **CW**: *RFCCW*
 - ◇ **SSB**: *RFCSSB*
 - ◆ Sent Exchange: *Grid* Example: 4

36.3.15 DARC 10 meter contest

- Window: Select Log type
 - ◆ Log Type: *DARC10M*
 - ◆ Mode Category: *Mixed* or *CW* (depends on the entry class)
 - ◆ Sent Exchange:
 - ◇ DL stations: *DOK* Example: A12
 - ◇ non DL stations: *empty*

Call history lookup for DOK's is supported. Make a text file with Call and DOK and import this in the program. See chapter Before the Contest for more information how to use Call History and how to create the text file. During the contest "Call History Lookup" has to be enabled under the Config menu. When a station (which is in the Callhistory lookup table) is entered, pressing SPACE when the cursor is in the callsign field will enter the DOK in the section field.

The contest manager from the DARC 10 meter contest approved and will accept the files made by N1MM logger and likes to receive:

File	How to make...	Exported
Log file	File, Export, Export to File (Generic), Generic File Output sorted by time	[callsign].txt
Summery sheet	File, Export, Print Score Summary to File	[callsign].sum

- Send the "Generic File Output sorted by time" as a txt-File named with your call like DL8WAA.TXT
- Don't forget your used own call, category and if you are a DL station: own sent DOK. This can be put in the Email or also sent the Cabrillo-File

36.3.16 DARC Weihnachtswettbewerb (XMAS contest)

The DARC Weihnachtswettbewerb is a contest on December 26 from 08.30–10.59 UTC between any station on 40 and 80 meters.

The DARC manager for the Xmas contest accepts the standard generic file as log together with the summery sheet..

- Window: Select Log type
 - ◆ Log Type: *XMAS*
 - ◆ Mode Category: *Mixed*
 - ◆ Sent Exchange:
 - ◇ DL stations: *Serialnumber + DOK* Example: 001 A12
 - ◇ Non-DL stations: *Serialnumber* Example: 001

During the contest info about suspicious DOK's are shown in the info bar and written to the Notes filed.

After the contest check "View | Notes" for the following situations:

- "DL station non DARC member" – no DOK is given (DL station who is not a DARC member).
- "DL station met DOK length 1" – DOK length is only one.
- "DOK with only numbers" – no letters in DOK.

36.3.17 European Sprint – CW/ SSB (EU sprint)

- Window: Select Log type
 - ◆ **CW**
 - ◇ Log Type: *EUSCW*
 - ◇ Mode Category: *CW*
 - ◇ Sent Exchange: *Serialnumber & Operator name* Example: 001 Tom
 - ◆ **SSB**

- ◊ Log Type: *EUSSSB*
- ◊ Mode Category: *SSB*
- ◊ Sent Exchange: *Serialnumber & Operator name* Example: 001 Tom

Example: The Exchange key (F2) can look like this: de * # {Exch} where "#" is current QSO Number and "{Exch}" is the Operator name.

36.3.18 Field Day Region I

The Region I field day contest can be configured for Region 1 stations and DX stations.

- Window: Select Log type
 - ◊ Log Type: *FDREG1*
 - ◊ Sent Exchange: *001*

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a Region 1 station or not.

36.3.19 FOC marathon

- Window: Select Log type
 - ◊ Log Type: *FOC*
 - ◊ Sent Exchange: *membership number*

36.3.20 HA DX Contest

The Hungarian DX Contest can be configured for HA stations and DX stations.

- Window: Select Log type
 - ◊ Log Type: *HADX*
 - ◊ Sent Exchange:
 - ◊ non-HA stations: *001*
 - ◊ HA stations
 - HADXC members: *HADXC membership number* Example: 101
 - Other HA stations: *two letters county code.* Example: GY

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a HA station or a DX station.

36.3.21 Helvetia Contest

The Helvetia Contest can be configured for HB stations and DX stations.

- Window: Select Log type
 - ◊ Log Type: *HELVETIA*
 - ◊ Sent Exchange:
 - ◊ *001* for non-HB stations
 - ◊ *001 Your Canton* Example: 001ZH for HB-station

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX station or a HB station.

36.3.22 IARU radiosporting contest HF

- Window: Select Log type
 - ♦ Log Type: *IARU-HF*

36.3.23 IOTA

- Window: Select Log type
 - ♦ Log Type: *IOTA*
 - ♦ Sent Exchange: *001 NA123* (default exchange)

The received IOTA reference does not need the dash (-) when logged. Example: Enter EU123 in the IOTA field. The Cabrillo output will have the - added.

N1MM logger uses separate numbering for CW and SSB

The rules from the IOTA say: Send RS(T) and serial number starting from 001, bonus IOTA reference number if applicable. Do not use separate numbering systems for CW and SSB. A reply from Don Field, the IOTA contest Manager on this subject: "The key thing is to record what was sent - if different serial number sequences were sent on each band, then record that. Then the checking software won't bring them up as busted QSOs."

36.3.24 NA Sprint CW / SSB

- Window: Select Log type
 - ♦ Log Type:
 - ♦ **CW**: *SPRINTCW*
 - ♦ **SSB**: *SPRINTSSB*
 - ♦ Sent Exchange: *001 Tom CT*
 - ♦ Serial number, your name and your location (state, province or country)
Example: *PA1M DE N1MM 123 TOM CT K*
- The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a North American station or a non-North American station.*

NA Sprint CW by Kenny, K2KW

North American Sprint CW is just a few hours away, and thought I would take a moment to help others get their CW messages ready. Your messages may differ slightly from mine, but I just wanted to highlight what's happening on the F2 and F3 messages which are the key setup items for Sprint. The F2 exchange is set up to give you the correct sequence for this contest using ESM, and the exchange sequence varies based on if you are Calling CQ, or you answered someone while S&P. F3 is used to confirm the message, and change your state from S&P to Running, or Running to S&P. The {RUN} and S&P} macros are inserted at the end of the F3 message, and will automatically change your state, and thus exchange sequence.

I have also changed the Up/Down Arrow to move 1.5 kHz, giving you an "instant QSY" per the rules. You may choose to use a wider QSY increment, but the goal was to offer you an idea for QSYing so you can abide by the rules.

If you are not aware of the uniqueness of the Sprint exchange and QSY rule, check out: <http://n6tr.jzap.com/sprint.html> and <http://www.ncjweb.com/sprintrules.php>

73 and CU in the contest,

1. The first law of thermodynamics states that the change in internal energy of a system is equal to the heat added to the system plus the work done on the system.

2. The second law of thermodynamics states that the entropy of an isolated system never decreases.

3. The third law of thermodynamics states that the entropy of a perfect crystal is zero at absolute zero temperature.

4. The Boltzmann constant, k_B , relates the average kinetic energy of particles in a gas to the temperature of the gas.

5. The partition function, Z , is a central quantity in statistical mechanics.

6. The Helmholtz free energy, A , is defined as $A = U - TS$.

7. The Gibbs free energy, G , is defined as $G = A + pV$.

8. The chemical potential, μ , is defined as $\mu = G/N$.

9. The grand potential, Ω , is defined as $\Omega = A - \mu N$.

10. The grand partition function, Ξ , is defined as $\Xi = \sum e^{-\beta \Omega}$.

11. The grand potential is related to the pressure, p , by $\Omega = -pV$.

12. The grand potential is also related to the average number of particles, N , by $N = -(\partial \Omega / \partial \mu)_{T, V}$.

13. The grand potential is also related to the average energy, E , by $E = -(\partial \Omega / \partial \beta)_{\mu, V}$.

14. The grand potential is also related to the average entropy, S , by $S = -(\partial \Omega / \partial T)_{\mu, V}$.

15. The grand potential is also related to the average volume, V , by $V = (\partial \Omega / \partial p)_{\mu, T}$.

16. The grand potential is also related to the average pressure, p , by $p = -(\partial \Omega / \partial V)_{\mu, T}$.

17. The grand potential is also related to the average temperature, T , by $T = (\partial \Omega / \partial S)_{\mu, V}$.

18. The grand potential is also related to the average chemical potential, μ , by $\mu = (\partial \Omega / \partial N)_{T, V}$.

19. The grand potential is also related to the average internal energy, U , by $U = (\partial \Omega / \partial \beta)_{\mu, V}$.

20. The grand potential is also related to the average entropy, S , by $S = -(\partial \Omega / \partial T)_{\mu, V}$.

Setting the Exchange:	
File> Choose Contest > Sent Exchange	"# <i>yourname yourstate</i> " (eg: # <i>KEN CA</i>)
In the Config > Configurer > Other window	I have changed the CW Up/Down Arrow Incr = 1.5 That gives me an instant QSY somewhat greater than the minimum QSY required after you leave a frequency. Any value over 1 kHz is recommended.

CW MESSAGES			
RUNNING Messages		S&P Messages	
F1 CQ:	* * <<<NA>>>	F1 CQ:	* * <<<NA>>>
F2:	* {EXCH}	F2:	! {EXCH} *
F3:	EE{S&P}	F3:	EE{RUN}
F4:	*	F4:	*
F5:	!	F5:	!
F6:	B4 E E	F6:	B4 E E
F7:	?	F7:	?
F8:	AGN	F8:	AGN
Running Message Notes • For F2, there is a space before the *; E.G. "<space> * {EXCH}" • For F3, "EE" is there to confirm the QSO. You could easily use "TU". • After the "EE" is sent on the F3 message, the {S&P} macro puts you into the S&P mode. Then just hit your UP/DOWN arrow to QSY. • Personally I have F6 programmed as {EXCH} to send a repeat on the exchange			
S&P Message Notes • Note the difference in the sequence for the F2 message compared to the Running F2 message • For the F3 message, the {RUN} macro puts you in the running mode, ready to work a tail ender and send him the correct QSO sequence • Personally I have F6 programmed as {EXCH} to send a repeat on the exchange			

36.3.25 North American QSO Parties (NAQP) – CW / SSB

- Window: Select Log type

♦ CW

- ◊ Log Type: NAQPCW
- ◊ Operator Category: SINGLE-OP or MULTI-TWO
 - For Multi-Two see the extra info below!
- ◊ Mode Category: CW
- ◊ Sent Exchange:
 - For North American stations – Operator name and station location (state, province, or country) Example: Tom CT
 - For non-North American stations – Operator name only Example: Thomas

♦ SSB

- ◊ Log Type: NAQPSSB
- ◊ Operator Category: SINGLE-OP or MULTI-TWO
 - For Multi-Two see the extra info below!

◇ Mode Category: SSB

◇ Sent Exchange:

- For North American stations – Operator name and station location (state, province, or country) Example: Tom CT
- For non-North American stations – Operator name only Example: Thomas

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a North American station or a non-North American station.

MULTI-TWO operating: When changing operator you have to use Ctrl-O to set the NAME (not Call) of the operator. This name set with Ctrl-O will be used in the Cabrillo file. So from the Sent Exchange only the state is being used but the name is needed. (Example: Tom CT). The macro {OPERATOR} can be used to automatically switch WAV files (in SSB), for more info see the Macro section.

36.3.26 NRAU – Baltic Contest

This contest is only for stations from the following countries: ES, JW, JX, LA, LY, OH, OHØ, OX, OY, OZ, SM, TF, and YL

- Window: Select Log type
 - ◆ Log Type:
 - ◇ **CW:** NRAUCW
 - ◇ **SSB:** NRAUSSB
 - ◆ Sent Exchange: *Section* Example: AA

When a station is logged the following checks are made:

- Is the logged station from a valid country (ES, JW, JX, LA, LY, OH, OHØ, OX, OY, OZ, SM, TF, and YL)
- Is the entered section a valid section (from NRAU.sec)
- A warning is given when a qso is made on another band than 7 or 3,5 MHz. A note is made with the logged qso.

36.3.27 PACC contest

The PACC contest can be configured for PA stations and DX stations.

- Window: Select Log type
 - ◆ Log Type: *PACC*
 - ◆ Sent Exchange:
 - ◇ *001* for non-PA stations
 - ◇ *Your province* Example: DR for PA-stations

PA stations have to import an adapted CTY.DAT file for the PACC contest so the right multipliers will be used. In the 'Entry window' go to 'Tools', and select 'Import country list from downloaded file'. This adapted country file can be downloaded from the N1MM website, select in the left menu: Other Files. Don't forget reloading the original CTY.DAT file again when entering other contests.

The callsign in the Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX station or a PA station.

The PACC contest committee approved and will accept the files made by N1MM logger and likes to receive:

<i>File</i>	<i>How to make...</i>	<i>Exported</i>
Log file	File, Export, Export to File (Generic)	[callsign].txt
Summerysheet	File, Export, Print Score Summary to File	[callsign].sum

36.3.28 RAC Canada Day / Winter Contest

With the same set of rules both contests are supported. These RAC contests can be used for VE stations and DX stations.

- Window: Select Log type
 - ◆ Log Type: RAC
 - ◆ Exchange:
 - ◇ *Province or territory* for stations in Canada
 - ◇ *001* for VEØs and stations outside Canada (serialnumber)

The callsign in the Station Information dialog (Config / Change Your Station Data / Call) determines if you are from Canada, VE0 or outside Canada.

36.3.29 REF contest – CW / SSB

The REFContest can be configured for stations in REF countries and DX stations.

- Window: Select Log type
 - ◆ Log Type:
 - ◇ **CW**: REFCW
 - ◇ **SSB**: REFSSB
 - ◆ Sent Exchange:
 - ◇ *For DX stations: 001*
 - ◇ *For stations in REF countries – Department (F and TK) or Prefix (all other REF countries)*

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX station or a station in a REF country.

36.3.30 RSGB jubilee contest

The RSGB jubilee contest can be configured for G stations and DX stations.

- Window: Select Log type
 - ◆ Log Type: *RSGBJUBILE*
 - ◆ Exchange: *001*

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are in the Commonwealth or not.

36.3.31 Russian DX contest

The Russian DX contest can be configured for Russian stations and DX stations.

- Window: Select Log type
 - ◆ Log Type: *RUSSIANDX*
 - ◆ Sent Exchange:
 - ◇ 001 for non-Russian stations
 - ◇ Your oblast code (two letters)

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an Russian station or a DX station.

Log submission notes:

'CATEGORY-OVERLAY'. In RDXC you can submit one log and have it scored as two single band entries. Like operating 10m during day time and 160m at night. Now, this is particular to this contest and you need to submit your log like this:

CATEGORY-OVERLAY: [operator-cat] [band-cat] [power-cat] [mode-cat] The category overlay of the log submission when appropriate. In RDXC, two single band entries are allowed from one participant. In this case, one entry must be listed under CATEGORY tag, the other one under CATEGORY-OVERLAY, such as:

- CATEGORY: SINGLE-OP 80M HIGH MIXED
- CATEGORY-OVERLAY: SINGLE-OP 15M HIGH MIXED

36.3.32 Russian YL/OM contest

- Window: Select Log type
 - ◆ Log Type: *RUSYLOM*
 - ◆ Sent Exchange:
 - ◇ 73 for male stations (OM)
 - ◇ 88 for female stations (YL)

YL stations (female) may only work OM stations (male) and vice versa.

36.3.33 SAC contest – CW / SSB

The Scandinavian Activity Contest uses a configuration file 'Sac.sec' with the used sections (aka QSO parties).

- Window: Select Log type
 - ◆ **CW**
 - ◇ Log Type: *SACCW*
 - ◇ Sent Exchange: 001
 - ◆ **SSB**
 - ◇ Log Type: *SACSSB*
 - ◇ Sent Exchange: 001

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an Scandinavian station or a DX station.

36.3.34 SPDX contest

The SPDX contest can be configured for Polish stations and DX stations.

- Window: Select Log type
 - ◆ Log Type: *SPDX*
 - ◆ Sent Exchange:
 - ◇ *001* for non-SP stations
 - ◇ *Your province* Example: B for Lubuskie

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an Polish station or a DX station.

36.3.35 Stew Perry Topband Distance Challenge

The Stew Perry contest is CW only.

- Window: Select Log type
 - ◆ Log Type: *STEWPERY*
 - ◆ Power category:
 - ◇ *HIGH* when > 100 Watt
 - ◇ *LOW* when 10 – 100 Watt
 - ◇ *QRP* when less than 10 Watt
 - ◆ Sent Exchange:
 - ◇ *Your four character grid* Example: JO33

The point calculation in the log is multiplied by a power multiplier for each qso point value. This factor depends on the selected Power category chosen. HIGH is multiplied by a factor 1, LOW by a factor 2 and QRP by a factor 4.

36.3.36 UBA contest – CW / SSB

The UBA DX Contest can be configured for ON stations and DX stations.

- Window: Select Log type
 - ◆ Log Type:
 - ◇ **CW**: UBACW
 - ◇ **SSB**: UBASSB
 - ◆ Mode Category: *CW*
 - ◆ Sent Exchange:
 - ◇ For non-ON stations: *001*
 - ◇ For ON stations – Serial + Your province Example: 001/OV

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX station or a ON station.

Before submitting your log look at the page from Franki, ON5ZO at <http://users.pandora.be/on5zo/n1mmlogger.htm>

The information tells in English, Dutch and French how to update the category in the cabrillo file so you are placed in the right category.

The UBA contest manager approved and will accept the Cabrillo output made by N1MMLogger.

Special Setup for Belgian participants:

How to include your province abbreviation in the Cabrillo output?

This MUST be done for both SSB and CW contests! Go to Config > Change your Station Data > State field: fill in the abbreviation for your province (OV, VB etc). It is VERY IMPORTANT to do this, as it will determine what you have sent in the log (Cabrillo output), and it is needed by the UBA Contest Team. The official abbreviation (2 letters) for the Belgian Provinces is to be found on the UBA site, under the rules for HF contests.

Non-Belgian participants can leave this field 'as is', it is only used for Belgian testers.

How to send your province abbreviation after the serial number in CW?

When you have selected to begin a new log for the UBA DX CW contest, you must change the F2 button message to send your province.

This is done like this; go to: Config > Change Packet /CW/SSB/Digital Message buttons > Change CW buttons In the right column, second row, there is: <<<5nn>>>{EXCH} This means the incrementing serial number. Now you have to add your province abbreviation, preceded by a slash (/). It should look like this: <<<5nn >>>{EXCH}/OV or <<<5nn >>>{EXCH}/AN

WARNING: Never change the '001' as the Sent Exchange value in the Select Log Type window, as the software will no longer send serial numbers!!!

36.3.37 UK DX contest CW / SSB

The UK DX contest can be configured for UK stations and non-UK stations.

- Window: Select Log type
 - ◆ Log Type:
 - ◇ **CW:** UKDXCW
 - ◇ **SSB:** UKDXSSB
 - ◆ Sent Exchange:
 - ◇ Area code for UK stations Example: BS
 - ◇ 001 for non-UK stations

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an UK station or a non-UK station.

36.3.38 WAEDC contest – CW / SSB

The WAEDC Contest can be configured for European stations and non-European stations.

- Window: Select Log type
 - ◆ Log Type:
 - ◇ **CW:** WAECW
 - ◇ **SSB:** WAESSB
 - ◆ Sent Exchange: 001

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a European station or a non-European station.

This contest has QTC Traffic: A QTC contains time, call sign and serial number of the reported QSO. Example: "1307/DA1AA/431" means that DA1AA was worked at 1307 UTC and sent serial number 431

1. Introduction

The main character of Worked All Europe (WAE), sponsored by the DARC is that Europe works non-Europe ('DX'), and stations outside of Europe work all countries on the WAE-list. So far, this is not an unusual contest. However, WAE has something no other contest has, that you'll either love or hate, being 'QTC'. What is a QTC? Well, the WAE rules give the following definition:

A QTC is the report of a contest QSO back to a European station.

Let's clear this up a bit. A QTC is a piece of traffic that can only be sent from outside EU ('DX') to EU ('WAE'). DX stations can offer to send them, EU stations will beg to get them. Why? Simply because for both sides each QTC is added to the QSO total. If N1MM makes a QSO with ON5ZO, then they both get 1 point for the QSO. If they decide to exchange 10 QTC's during this QSO, they both have 11 points, being 1 QSO + 10 QTC's. If after the contest, ON5ZO made 300 QSO's, during which he got 500 QTC's, the total score will be 800, to be multiplied with the amount of multipliers. Hence the popularity of the QTC's...

Now, what does a QTC look like? It has three main parts, being time, call and serial. When exchanging QSO's, the DX station will send the QSO's that are already in his log. He will transmit the three parts of the QSO that make up the QTC. Suppose that N1MM logged ON5ZO at 0123utc, and ON5ZO gave '012' as his serial to N1MM. Later on in the contest, N1MM runs into 9A7P, who asks for a QTC. N1MM kindly willing to transmit a QTC, sends the following to 9A7P:

0123 ON5ZO 012

So, in other words, N1MM says to 9A7P that at 0123utc, he logged ON5ZO who gave him 012. So the serial in the QTC is the number given by the EU station to the DX station in their earlier QSO!

The rules say that a DX station can only send 10 QTC's to a EU station, and it is forbidden for the DX to send a QTC featuring a previous QSO with the same EU station he is currently giving QTC's to. No worries, the software takes care of that. Furthermore, each QSO can only be sent once as a QTC, so a DX station can never have more QTC's sent than QSO's logged. A EU station however, can have much more QTC's than QSO's, as each QSO can raise up to 10 QTC's. A DX station can choose to send 10 QTC's at once during a QSO, or if he has, let's say 100 QSO's in the log, of which 95 have already been sent once as a QTC, he can send 5 QTC's. The EU station can ask for another 5 QTC's later on in the contest, after another QSO on another band – or on the same band! More on this later.

The maximum of 10 QTC's can be reached with only 1 QSO, or with 5 QSO's on (5 bands), with each time 2 QTC's. You see, everything is possible. You don't even need to make a QSO to get QTC's. Suppose that early in the contest, ON5ZO is running, and N1MM calls on 20m. They have a regular QSO and exchange serial numbers. ON5ZO asks 'QTC?' but N1MM does want to make some QSO's first and wait to send QTC's towards the end of the contest. 40 hours later, N1MM is running on 20m and ON5ZO comes across, ON5ZO sees that N1MM is a dupe because they QSO'd in the beginning of the contests. However, they didn't exchange QTC's, so ON5ZO asks 'QTC? de ON5ZO'. N1MM sees that they have worked but indeed: there were no QTC's exchanged in the first hours of the contests, and N1MM is now eager to send all his QSO's as QTC's. N1MM says 'QTC OK' and they exchange QTC's, but no serial number for the QSO – because there is no QSO anymore, only the exchange of QTC's.

But there is more. A series of QTC is to be numbered. The sending station (DX) will initiate the series of QTC's with a number like 'QTC xx/yy'. This means that the DX stations is sending QTC's for the xx'th time, and this will be a series containing yy QTC's. Suppose N1MM sends 'QTC 45/8', this means that it's the 45th time he's sending a series of QTC's, and this particular series will contain 8 QTC's.

10/10/2020

1. Introduction

The purpose of this document is to provide a comprehensive overview of the project's objectives, scope, and deliverables. It is intended for use by all stakeholders involved in the project.

The document is organized as follows:

- 1. Introduction
- 2. Objectives
- 3. Scope
- 4. Deliverables
- 5. Timeline
- 6. Risks
- 7. Conclusion

2. Objectives

The primary objective of this project is to develop a new software application that meets the following requirements:

- 1. The application must be able to handle large volumes of data.
- 2. The application must be secure and reliable.
- 3. The application must be easy to use and maintain.
- 4. The application must be able to integrate with existing systems.

The secondary objectives are:

- 1. To ensure that the application is scalable and flexible.
- 2. To ensure that the application is cost-effective.
- 3. To ensure that the application is compliant with relevant regulations.

The project will be managed using the following methodology:

- 1. Waterfall model
- 2. Agile methodology
- 3. Hybrid approach

3. Scope

The scope of the project is defined by the following boundaries:

- 1. The project will cover the development of the software application.
- 2. The project will cover the testing and deployment of the application.
- 3. The project will cover the training of users.

The project will not cover the following:

- 1. The purchase of hardware.
- 2. The purchase of third-party software.
- 3. The purchase of external consulting services.

The project will be managed using the following tools:

- 1. Microsoft Project
- 2. Jira
- 3. Confluence

The project will be managed using the following roles:

- 1. Project Manager
- 2. Business Analyst
- 3. Software Developer
- 4. Tester
- 5. User Acceptance Tester

The project will be managed using the following milestones:

- 1. Project Kick-off
- 2. Requirements Gathering
- 3. Design
- 4. Development
- 5. Testing
- 6. Deployment
- 7. Project Close-out

The project will be managed using the following risks:

- 1. Scope creep
- 2. Resource availability
- 3. Budget overruns
- 4. Technical challenges
- 5. Communication issues

The project will be managed using the following deliverables:

- 1. Project Charter
- 2. Requirements Document
- 3. Design Document
- 4. Software Application
- 5. Test Plan
- 6. User Acceptance Test Results
- 7. Project Report

The project will be managed using the following metrics:

- 1. Progress
- 2. Cost
- 3. Quality
- 4. Risk
- 5. Communication

Now that we know what a QTC is, what it looks like and why it is sent, let's look at a real situation using the software. If you start a new contest using the WAE-module, it looks like a normal contest. You set it up with the usual parameters, like Power, Category etc. Don't forget to fill in '001' for the exchange!

When this is done, you'll see that you have both entry windows. You can use these like you normally would, both in run mode and in S&P.

2. WAE from EU-side

This is what a WAE-QSO could look like including some QTC's, with ON5ZO running:

```
CQ TEST ON5ZO
N1MM
N1MM 5NN 012
R 5NN 48
QTC?
R QTC 12/5 QRV?
QRV
0123 PA1M 12
R
0124 G4BUO 03
R
0124 F6BEE 56
R
0125 DL6RAI 89
R
0126 9A7P 102
R TU
```

How does it work? After **entering** the normal QSO, where both stations exchange serial numbers, ON5ZO goes into QTC mode by pressing **Ctrl-Z**. This triggers the program to send the 'QTC?' message to ask N1MM if he wants to give QTC's. At the same time, you'll notice that the entry window changes a bit, and the cursor will be blinking the 'N/N' window. N1MM answers and gives the 'N/N' part, so ON5ZO logs '12/5'. Hitting spacebar moves to the next window, and you'll send 'QRV' (with your paddle, for the time being), so the DX knows you're ready to copy the QTC's. Each time you copy a part of the QTC and want to move to the next field, you press the spacebar. When you have a complete QTC, i.e. time/call/serial, you hit Enter and the program sends a confirming 'R', so the DX knows you got it OK and he can start transmitting the next QTC. If the series of QTC's is copied and you're done with this calling station, you press F3, which is the Thank You message, the program will send this TU message and close the QTC-mode, returning to normal QSO mode.

Remark: Sometimes DX stations don't repeat the two digits representing the hour in the time part of the QTC. They just type the minutes, because the hour is the same for a bunch of QSO's that were logged in a short time span. When copying QTC's at 36WPM or faster, you don't have the time to think things over so you just type what you copy. If you hear that after two numbers, the next character is a letter, you press space and begin typing the callsign. The software will automatically add the two digits of the hour.

In S&P mode, the same keystroke, **Ctrl-Z**, activates QTC-mode here. There is little or no difference in the procedure. Only advice is to try everything well BEFORE the contest and report bugs ASAP...

3. WAE from DX-side

From the other side of the contest, the 'DX' side, the main keystroke to activate QTC-mode is also **Ctrl-Z**. You will then have a pop-up window, asking you how many QTC's you want to send to the EU-station. Hitting enter will send the 'QTC xx/yy' message, the 'yy' part being the number of QTC's you agreed to send in the pop-up message.

The second most important keystroke is **Ctrl-Enter**. This will repeat the last QTC sent, or if you're still in the 'N/N' stage, it'll resend this information. It will occur more than once that a EU station does not copy the first time you transmit, due to QRM, 'cockpit errors' or simply because you send too fast! So **Ctrl-Enter** will repeat the last part sent, should the EU station ask 'AGN' or something similar.

On the bottom of the info window, you will see a message, indicating how many QTC's have already been sent to a given station.

WAEDC Keyboard Assignments

Ctrl-Z – activate QTC-mode and sends: QTC? and log Qso's if nr is greater than 0. Ctrl-Z cycles through QSO, receive QTC and send QTC modes.

Ctrl-Enter – resend last QTC or it will resend QTC n/n if that was the last message sent.

Step-by-Step instructions

- After you make a contact, first log the contact
- If you want to **send** QTC's use **Ctrl- Z**, the log window will change to QTC mode
- You get a screen asking how many QTC's you want to send. Enter a number of just hit **Enter** and the QTC count will go away.
 - ♦ At the bottom of the logging area the QTC number will be indicated, i.e. 12/10, meaning the 12 QTC series and 10 QTC's
- The first QTC will show up with the time call and number.
- After the station acknowledges the QTC hit **enter** and the next QTC will show up.
 - ♦ Continue this until all QTC's have been sent.
- Then do **Ctrl-Z** to return to normal logging.

Other info

- If only two digits of time entered, take first two digits from prior QTC
- The status line in the Info window shows the total QTC Sent and Received from the station being worked.
- The number of the QTC in the serie sent is shown. Example: 5 from 10

36.3.39 WAG contest

The WAG contest can be used by German stations and non German stations.

- Window: Select Log type
 - ♦ Log Type: WAG
 - ♦ Sent Exchange:
 - ◊ non-DL stations: 001
 - ◊ DL stations:
 - DARC member: DOK (example: V11)
 - non-DARC member: 001

*The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an German station or a non-German station.
Non DL stations may only give a number*

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DL stations give a DOK (DARC members) or a number (non DARC members)
For stations not giving an exchange put "000" in the exchange field

- minimal DOK length is 2
- 0 is allowed to be entered

Note: When updating a DOK in the log window you have to update not only the Exchange but also the Section by hand....only when the qso is in Entry window the program strips the Section (V) from the Exchange (V11) automatically.

36.4 QSO parties

The program supports 23 US QSO parties and 1 Canadian QSO party.

There are some scoring anomalies though (there is a score disclaimer).

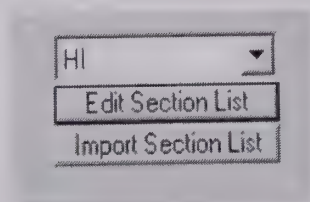
The QSO parties use a configuration file named 'County.sec' with the names of the counties for each qso party.

The program recognizes whether you are operating from the selected contest state.

Make sure you ARRL section is entered in the station dialog.

The list of county abbreviations has been taken from the official site for your contest, if available. This list of counties can be found in Config/Change Exchange Abbreviations/Change QSO Party Abbreviations. Note that you may add abbreviations for counties. For example, say there is a county TOL TOL. If you wanted to enter TOL for the county, you are all set. If you want to enter TOLLAND for TOL, then you should ADD a line TOLLAND TOL. Whether you enter TOL or TOLLAND, the qso will be logged with TOL.

- Window: Select Log type
 - ◆ Log Type: QSOPARTY
 - ◆ A selection box where to choose the state / province appears (see picture below).
 - ◇ Select a State or Province (example image shows Hawaii HI)
 - ◇ Mode Category: *MIXED*
 - ◆ Sent Exchange:
 - ◇ The exchange depends on the QSO party. Mostly serial number and location
 - ◇ *Inside the selected State/Province* – See contest instructions
 - ◇ *Outside the selected State/Province* – See contest instructions
 - ◇ If sent exchange is specified as "001" then a serial number will be sent
- **The ARRL SECTION entered in the State field in the Station Dialog will be used to determine if you are in or outside a state or province.**



36.4.1 Florida QSO party

Florida multiplier work around.

Florida stations get a FL state multiplier for their first Florida QSO. Florida stations get no multipliers for Florida counties but get QSO point for Florida QSO's. To get the right multiplier change the exchange of the first Florida QSO to FLA, it forces the FL multiplier credit.

36.4.2 PA QSO party

Florida Points work around.

The logging program does not handle fractional points for QSO's like this contest uses. The points are doubled to make it easy to divide final score by two. Also, the rule to assign multiple counties to a single serial number is not supported.

36.4.3 Updating and importing the QSO party sections

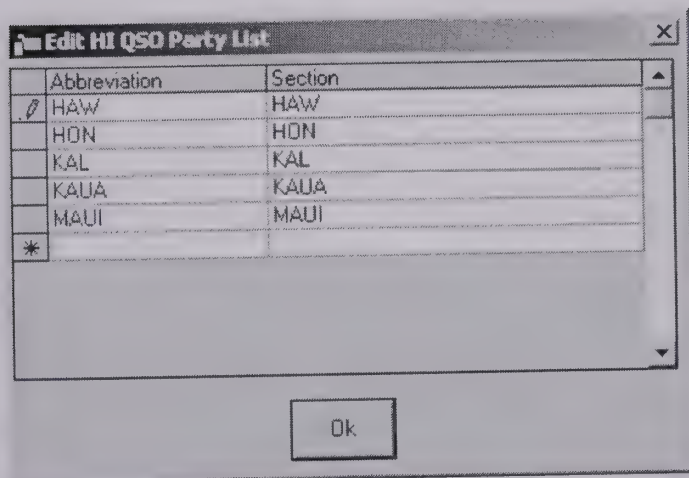
- Always try first on a test database.
- The 'County.sec' file located in the program directory has listed all the sections per QSO party
- Importing is done automatically at the start of the program when the database has no QSO party section information (checked at startup).
- If the 'County.sec' file has been changed (updated) after automatically been imported by the program it has to be imported into the database manually so the made changes
- The load process deletes all the counties for a state before loading them.
- The maximum length for a section is 5 characters.

How it works

If you want abbreviations for counties e.g. Tolland = TOLL then, Edit the Sections list, and TOLLAND in the abbreviation, and TOLL in the key. When you log Tolland, the program will substitute TOLL.

Test the change

- Open a TEST database
- Create a new QSOPARTY contest
- Choose Import (See image above)
- Specify the location where you saved the attached file & "county.sec"
- Import need only be done once (after an update/change).
- You should now see 20+ states/provinces in the combo box.
- Choose one & test...



36.5 VHF and up contests

36.5.1 ARRL January VHF Sweepstakes

- Window: Select Log type
 - ♦ Log Type: *ARRLVHFJAN*
 - ♦ Sent Exchange: *Your four character grid* Example: JO33

Exchange of signal report is optional. Foreign stations work W/VE amateurs only. Stations can be logged more than once from a different grid without being a dupe (for Rover stations).

The score for Rover stations is not being calculated by the program!

36.5.2 ARRL June VHF QSO Party

- Window: Select Log type
 - ♦ Log Type: *ARRLVHFJUN*
 - ♦ Sent Exchange: *Your four character grid* Example: JO33

Exchange of signal report is optional. Foreign stations work W/VE amateurs only. Stations can be logged more than once from a different grid without being a dupe (for Rover stations).

The score for Rover stations is not being calculated by the program!

36.5.3 ARRL September VHF QSO Party

- Window: Select Log type
 - ♦ Log Type: *ARRLVHFSEP*
 - ♦ Sent Exchange: *Your four character grid* Example: JO33

Exchange of signal report is optional. Foreign stations work W/VE amateurs only. Stations can be logged more than once from a different grid without being a dupe (for Rover stations).

The score for Rover stations is not being calculated by the program!

36.5.4 Marconi CW contest

The Marconi CW contest is CW only. For settings see the VHF Region 1 contest.
Select: Log Type: VHFREG1

36.5.5 REF Departments contest 50 Mhz

- Window: Select Log type
 - ♦ Log Type: *DDFM50*
 - ♦ Sent Exchange: *Serial Number + Your four character grid* Example: 001 JO33

36.5.6 UKSMG sporadic-E competition

- Window: Select Log type
 - ♦ Log Type: *UKSMG*
 - ♦ Sent Exchange: *Your four character grid* Example: JO33

Only the 6 meter band is shown in the Multiplier window

36.5.7 IARU Region 1 contesting (50 MHz, VHF, UHF/Microwaves)

Region 1 contesting uses a serial number and gridsquare as exchange. The points per qso is the calculated distance between your sent gridsquare and the received gridsquare.

- Station Information (Config | Change Your Station data)
 - ◆ Grid Square: <gridsquare> Example: JO33fd
 - ◇ This grid square is used in calculating the distance between the stations (and is part of the exchange)
- Window: Select Log type (File | Choose Contest)
 - ◆ Log Type: VHFREG1
 - ◆ Sent Exchange: 001 <gridsquare>
 - ◇ Example: 001 JO33fd
 - ◇ The sent exchange is not used by this specific contest otherwise the use in the macros for the function keys.

This contest type has the possibility to use the CallHist table in which information can be stored which can be easy to have during a qso like name and gridsquare's used in previous contests. This specific contest type uses the Name, Locator1 and Locator2 fields from the CallHist table. Entering any information in this table is not necessary for the contest module to work but can be very handy. For this to work information has to be imported in the Call History table (File | Import | Import Call History), also this feature has to be enabled to work (Config | Call History Lookup).

- When a callsign is entered and the SPACE key is pressed the program will check next to the normal things like dupe check the following:
 - ◆ Check the log if the callsign is known and if already worked the gridsquare is entered from the log in the Entry Window grid square exchange field.
 - ◆ If not found in the log file it will check the callhist table. If the callsign is found it will place the content from locator1 in the Entry Window grid square exchange field. The callsign is 'normalized' before searching in the CallHist table which means that /P, /A, /2 etc. will be removed before searching. Information in the CallHist table should be in its normalized form.
- Information from the callhist table i.e. locator1, locator2 and the name field will be shown below the function keys.
- Normally this feature is not turned on (it gives a very short delay while searching the table), to turn it on select: **Config | Call History Lookup**
- Note: Any information already typed in the grid square exchange will not be overwritten by the log file or Callhist table search. So first entering a grid square and afterwards a callsign is possible without overwriting the already entered grid square information. A callsign already worked will be shown in the bottom pane of the log window and marked with the dupe message. If the station is not worked before and is present in the CallHist table, this information will always be shown below the function keys.
- More information about importing information in the CallHist table can be found in chapter VHF and Up contesting. A zip file with an import file for the 'Call history' lookup function and a ready master file with known calls can be downloaded from the N1MM web site and select in the left menu: Other Files. Don't forget to turn on the lookup function under 'Config | Call History Lookup'
- More information about VHF related contesting and features can be found in chapter VHF and Up contesting

A QSO can not be entered when

- The serial number is missing
 - ◆ Warning: "Missing Serial Number!"
- The grid length is not 6
 - ◆ Warning: – "6 character grid required!"
- The grid format is not correct.
 - ◆ Warning: – "Wrong format grid. Format = AA##AA"

These checks will (only) be done: when trying to log the qso (mostly by pressing Enter)

How VHFREG1 looks for a known grid square

- Look in the log if the station has been worked before (on any band)
 - ◆ If found show the grid and calculate distance and bearing
- If not found look for the call sign in the 'call history' table including any /P /3 etc when applicable.
 - ◆ If found show the grid and calculate distance and bearing
- If not found look for the call sign in the 'call history' table with the /P /3 etc removed (normalized callsign)
 - ◆ If found show the grid and calculate distance and bearing
- If not found add the 'big grid' from the country when known by VHFREG1
 - ◆ If found show 'big grid' (no calculations done)
 - ◆ If not show nothing in grid square field
- The check will (only) be done: When space is pressed and the cursor is in Callsign field

Bearing and distance calculations

- When space is pressed and the cursor is in Callsign field
- When trying to log the qso (mostly by pressing Enter)
- The grid square length has to be 4 or 6 digits.

Check Grid with country

- When a grid is entered the program will check if the 'big grid' is a possible grid for the entered callsign.
 - ◆ Example: A Dutch station is always in JO.
- When the callsign is entered with /MM the check will not be done. Also when you want to enter a qso which will be refused, the check can be ignored by entering /GO behind the callsign (example: PA1M/GO). The /GO will be removed when entered in the log. The qso will get entered in the Comment field that the entered prefix does not match with the locator. Example: "JO not possible for this Country."
- The check will (only) be done:
 - ◆ When space is pressed and the cursor is in Callsign field
 - ◆ When trying to log the qso (mostly by pressing Enter)

Add 'big grid' to 4 digit grid (if last 4 digits entered)

- When a 4 digit grid is entered the program checks if these are the last four characters from a 6 digit grid. If so it will add the 'big grid' from the country (for a Dutch station it will add JO).
- The check will (only) be done:
 - ◆ When space is pressed and the cursor is in Callsign field
 - ◆ When trying to log the qso (mostly by pressing Enter)

Add 'big grid' when no grid is found (from log or 'call history' table)

When a station is entered in the callsign pressing SPACE will search the 'call history' table. When the entered callsign is not found the program will try to add the 'big grid' who belongs to that country. If more grids are possible it uses the grid which occupies the most space in the country (IO in England) or is the easiest workable grid from Western Europe (JP for Norway, most south grid. The Netherlands will always give JO because this is the only grid possible for PA.

- The check will (only) be done:
 - ♦ When space is pressed and the cursor is in Callsign field

For DL stations: The German contest manager hat informiert dass er die Logeinsendungen von N1MM gerne akzeptiert !

Wie immer akzeptiert er den postalischen Versand des Logs, jedoch auch Email ist möglich !!!
Lediglich müssen die Daten druckfähig sein !!!

Vorab also einige Hinweis:

1. Jedes Log muß mit dem Generic-File-Output als TXT-Format sortiert nach Zeit abgespeichert werden und als Bezeichnung "CALLBAND.TXT" lauten. Also DH5HV2m.txt zum Beispiel für einen Contest unter DH5HV auf 2m !

2. Bei der Einsendung mehrerer Bänder sollte man diesbezüglich den Generic-File erstellen mit "sorted by Band" und dann mit einem Editor kurz bearbeiten, sodass man als Beispiel eine 2m-Datei, eine 70cm-Datei, eine 23cm-Datei, etc. hat !

Auch hier natürlich dann DH5HV2m.txt und DH5HV70cm.txt und DH5HV23cm.txt erstellen bzw. benennen !!!

3. Und wie bisher auch üblich wird für jedes Band ein separates Deckblatt benötigt, was nur komplett ausgefüllt gewertet werden kann !

Man findet dies unter <http://www.darc.de/referate/ukw-funksport/index.html> ganz unten als PDF- oder DOC-File !

36.6 RTTY/PSK31 contests

36.6.1 ANARTS WW RTTY contest

- Window: Select Log Type
 - ♦ Log Type: *ANARTS*
 - ♦ Sent Exchange: *Zone* Example: 14

36.6.2 ANATOLIAN RTTY contest

- Window: Select Log Type
 - ♦ Log Type: *ANATOLRTTY*
 - ♦ Sent Exchange: *001*

36.6.3 ARRL RTTY Roundup

The ARRL RTTY Roundup can be used by K/VE stations and DX stations.

- Window: Select Log Type
 - ♦ Log Type: *ARRLRTTY*
 - ♦ Sent Exchange:
 - ♦ *Your state/province* – for K/VE stations Example: NY
 - ♦ *001* – for DX stations (non K/VE)

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
530 CHICAGO HALL
CHICAGO, ILL. 60637

RECEIVED
JAN 10 1964

TO THE DIRECTOR
OF THE UNIVERSITY OF CHICAGO

FROM THE DEPARTMENT OF CHEMISTRY

RE: [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a DX stations or a WIVE station.

NB. US stations who work US "/MM" stations are also allowed to log serial numbers.

36.6.4 BARTG RTTY Sprint contest

- Window: Select Log type
 - ◆ Log Type: *BARTGRTTYS*
 - ◆ Sent Exchange: *001*

36.6.5 BARTG RTTY Spring contest

- Window: Select Log type
 - ◆ Log Type: *BARTGSRTTY*
 - ◆ Sent Exchange: *001*

36.6.6 CQ World Wide DX contest – RTTY

- Window: Select Log type
 - ◆ Log Type: *CQWWRTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange:
 - ◇ *North American/Canadian stations – Your zone plus the STATE or AREA*
Example: 05 NY
 - ◇ *Other stations – Your zone* Example: 14

The default zone values for US (A,K,N,W) stations are

- ◆ Zone 3 – If number in callsign is 6 or 7
- ◆ Zone 4 – If number in callsign is 5 or 8 or 9 or 0
- ◆ Zone 5 – If number in callsign is 1 or 2 or 3 or 4

The default zone values for Canadian (VE) stations are

- ◆ Zone 1 – If callsign starts with: VY1
- ◆ Zone 2 – If callsign starts with: VE2, VO2
- ◆ Zone 3 – If callsign starts with: VE7, VC7
- ◆ Zone 4 – If callsign starts with: VE3, VE4, VE5, VE6, VA3
- ◆ Zone 5 – If callsign starts with: VO1, VE1, XJ1, VY2

The default section values for Canadian (VE) stations are

- ◆ VE – If callsign starts with: VE1, VE2, VE3, VE4, VE5, VE6, VE7, VE8, VO1, VO2, VY
- Give 'Space' when the cursor is in the 'Callsign' field to have the 'Zone' field filled with the default value.
- The default zone will be selected, so that if you type another zone, it will replace the numbers that the program put in there.
- Abbreviations for Canadian regions are allowed
- When typing the section and the entered section is new it will be shown in **RED**. The Available window will also show if a section multiplier is needed on other bands
- When pressing Space and the entered callsign is not US or VE, the cursor will skip the state/section field.

36.6.7 CQ World Wide WPX contest – RTTY

- Window: Select Log type
 - ◆ Log Type: *CQWWRTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange: *Serialnumber* Example: 001
- Leading zeros are being forced on sent & received serial numbers.

36.6.8 CIS contest – RTTY

The Commonwealth of Independent States Contest where everybody can work everybody for QSO and multiplier credit.

- Window: Select Log type
 - ◆ Log Type: *CISRTTY*
 - ◆ Sent Exchange:
 - ◇ CIS stations: *CIS area code* Example for Moscow City: RU11
 - ◇ Non-CIS stations: *001*

36.6.9 DL DX RTTY contest

- Window: Select Log type
 - ◆ Log Type: *DLDXRTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange: *001* .

36.6.10 EA RTTY contest

- Window: Select Log type
 - ◆ Log Type: *EARTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange:
 - ◇ *For Spanish stations* – Province Example: AL
 - ◇ *For non-Spanish stations* – 001

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a Spanish station or a non-Spanish station.

36.6.11 JARTS WW RTTY contest

- Window: Select Log type
 - ◆ Log Type: *JARTSWWRTY*
 - ◆ Sent Exchange: *Your age* Example: 34
 - ◇ XYL and YL stations may give 00
 - ◇ Multi-operator stations must send 99 as a operator age.

36.6.12 NA Sprint RTTY

- Window: Select Log type
 - ◆ Log Type: *SPRINTRTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange: 001 Tom CT

◊ Serial number, your name and your location (state, province or country)

Example: PA1M DE N1MM 123 TOM CT K

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a North American station or a non-North American station.

Note: For RTTY only, the same station can be worked multiple times provided 3 contacts separate the contact in both logs, regardless of band.

36.6.13 North American QSO Parties (NAQP) – RTTY

- Window: Select Log type
 - ◆ Log Type: *NAQPRTTY*
 - ◆ Operator Category: SINGLE-OP or MULTI-TWO
 - ◊ For Multi-Two see the extra info below!
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange:
 - ◊ *For North American stations* – Operator name and station location (state, province, or country) Example: Tom CT
 - ◊ *For non-North American stations* – Operator name only Example: Thomas

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a North American station or a non-North American station.

MULTI-TWO operating: When changing operator you have to use Ctrl-O to set the NAME (not Call) of the operator. This name set with Ctrl-O will be used in the cabrillo file. So from the Sent Exchange only the state is being used but the name is needed. (Example: Tom CT). The macro {OPERATOR} can be used to automatically switch WAV files (in SSB), for more info see the Macro section.

36.6.14 OK DX RTTY Contest

- Window: Select Log type
 - ◆ Log Type: *OKDXRTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange: *CQ zone*

36.6.15 Quick PSK63 Contest

The contest uses the same rules as the SARTG WW RTTY contest so select that contest. After the contest the cabrillo output has to be updated (take SARTG WW out and replace with Quick PSK63)

36.6.16 SARTG New Year RTTY Contest

- Window: Select Log type
 - ◆ Log Type: *SARTGNYRTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange: *01 + name + "Happy New Year" in your native language.001 + name + "Happy New Year" in your native language*

36.6.17 SARTG WW RTTY Contest

- Window: Select Log type
 - ◆ Log Type: *SARTGRTTY*
 - ◆ Mode Category: *RTTY*

- ◆ Sent Exchange: 001

36.6.18 SCC RTTY Championship

- Window: Select Log type
 - ◆ Log Type: *SCCRTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange: four-digit number of the year the amateur radio licence was FIRST officially issued (e.g. 1983) to the operator.

The score Summary window only shows your total score and the number of mults you have worked per band. There is no breakdown by points. In SCC there is one extra column of mults but that had to be there as the way things are setup to calculate the first multiplier (different years). Thus the name of the second mult is "N/A". The only way to do a breakdown on points is to go thru your log and manually do it.

36.6.19 SP DX RTTY contest

- Window: Select Log type
 - ◆ Log Type: *SPDXRTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange:
 - ◇ 001 for non-SP stations
 - ◇ *Your province* Example: B for Lubuskie

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an Polish station or a DX station.

36.6.20 TARA PSK Rumble

- Window: Select Log type
 - ◆ Log Type: *CQWWRTTY*
 - ◆ Mode Category: *MIXED*
 - ◆ Sent Exchange: *Name and Location* Example: Tom CT

36.6.21 UK DX contest RTTY

The UK DX contest can be configured for UK stations and non-UK stations.

- Window: Select Log type
 - ◆ Log Type: *UKDXRTTY*
 - ◆ Sent Exchange:
 - ◇ *Area code* for UK stations Example: BS
 - ◇ 001 for non-UK stations

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are an UK station or a non-UK station.

36.6.22 VOLTA RTTY Contest

- Window: Select Log type
 - ◆ Log Type: *VOLTARTTY*

- ◆ Mode Category: *RTTY*
- ◆ Sent Exchange: QSO number + Your CQ Zone. Example: *001 15*

The four Band Multiplier count for this contest is displayed on info window.

36.6.23 WAEDC contest

The WAEDC Contest can be configured for European stations and non-European stations.

- Window: Select Log type
 - ◆ Log Type: *WAERTTY*
 - ◆ Sent Exchange: *001*

The callsign in your Station Information dialog (Config / Change Your Station Data / Call) determines if you are a European station or a non-European station.

For info over the WAE also see the WAE SSB/CW part above. Below info is only for WAEDC RTTY:

- **WAEDC RTTY is limited to the first Digital Window.** There is just too much code and overhead to add to the project. This means it is limited to SO1R but you can still use the 2nd window. You just can't send and receive QTC's with it. When saving received QTC's the routine I'm using will pick the *###/###* out of anything that you throw at it.
- QTC Lines on the frame are broken up into separate boxes. This was done to allow error checking of any data that is input by hand and clicking on data in RX window.
- If you click on data or enter data in the QTC windows if the routines detect bad data it will flag that data in **red**.
- When saving QTC if any of the data still hasn't been corrected it will send the received ok message but will not save the info into the log until the bad data is fixed. Once fixed just click save again and it will save the data without sending the received message. A warning message is given in the Entry window status bar.
- To select whole lines of received QTC just place the cursor over the line and left click.
- To select individual QTC sections place the cursor over the item you want to select and right click on it. After the data is selected place the cursor over the text box you want the data to go into and left click it will be placed into it.
- When pressing CTRL-Z to switch modes the program will display the total QTC sent and received from the station being worked. When the QTC frame opens on the DI only the Needed amount of QTC boxes will be enabled. Example(if I have worked UT5XXX and received 5 QTC's from him, the next time I work him and I open up the Receive QTC frame only 5 QTC lines will be enabled to reach maximum QTC amount .
- When pressing CTRL-Z to switch modes if you have reached the MAX amount of QTC the QTC frame will close and give a warning message in Entry windows status bar.
- When left clicking on a Received QTC line will split data on " ","/","-" separators if the routines can't split the data it will not copy the data over. You will have to click each item separate or hand type it in.
- Selecting of individual QTC items can be done by right clicking on item. Left clicking on the box where the data to be placed places text.
- Ctrl-Z cycles through QSO, receive QTC and send QTC modes. After you enter a callsign in the entry window pressing Ctrl-Z will cycle through the RQCT and SQTC modes. If you are receiving QTC press Ctrl-Z once and as the QTC appears in the digital window just click on it one time and it will transfer over to the QTC entry window. To send a QTC press Ctrl-Z one more time and it will show you all the QTC's you have available to send.
- The status line in the Info window shows the total QTC Sent and Received from the station being worked.

For more information look at WAEDC for SSB/CW. However, there are 2 fundamental differences between the RTTY and the SSB/CW version of the contest:

1. Everyone can work everyone, so DX can work DX and EU can work EU
2. Everyone can both send and receive QTC's, however they can only be exchanged between stations in a different continent

36.6.24 XE RTTY Contest

- Window: Select Log type
 - ◆ Log Type: *XERTTY*
 - ◆ Mode Category: *RTTY*
 - ◆ Sent Exchange:
 - ◇ Mexico: State. Example: *AGS*
 - ◇ Non-Mexico: *001*

36.7 Deleted QSO's

36.7.1 DELETEDQS "contest"

Qso's which you have deleted using 'Edit Contact' are placed in this 'contest'. This is in especially for multi-user support. Deleted qso's can be exported.

37 Interfacing

37.1 General

The program can interface with your radio using several ports from the computer. These ports are:

- Serial port – With a serial port it is possible to send CW, key PTT or communicate with your radio. Most computers have 2 Serial communication ports with 9 or 25 pins.
- Parallel port – With the parallel port it is possible to send CW or key PTT. There is additional info available on the parallel port. With this additional info you can switch antennas with the right interface connected. Also there is a pin that indicates which radio is currently active.
- Sound card – The sound card is used to send sound (Wav) files to your radio for instance for giving CQ and when using RTTY with MMTTY. You can also use the sound card to record all the qso's you are making.

For **CW** the parallel ports are assumed to have the default addresses shown in the list below. These addresses can be changed in the configurer.

Port	Address
LPT1	&H378
LPT2	&H278
LPT3	&H3BC

For **CW** the serial ports are assumed to have the default addresses shown in the list below:

Port	Address
COM1	&H3F8
COM2	&H2F8
COM3	&H3E8
COM4	&H2E8
COM5	&H2F0
COM6	&H3E0
COM7	&H2E0
COM8	&H260

These addresses can be checked in (Win98) Control Panel/System/Device Manager/Ports (COM & LPT)/(Choose a port)/Resources/Input Output Range.

Nonstandard port addresses will not work for CW.



Tip. If you have one standard and one nonstandard COM port, assign the nonstandard to the radio, and the standard port to CW.

37.2 Radio interfacing

Interfacing to a radio is done directly with a serial cable (straight or crossed) or when using an older radio an additional interface is needed. Every brand has it's own solution for it, also they have there own commands when changing frequency, changing band etc. So always look in the manual what to use with your radio what to use.

When a direct serial cable is needed be sure it has all the necessary pins wired. A cable with full wiring is mostly ok but sometimes a cable with only 3 wires could be the way to go..

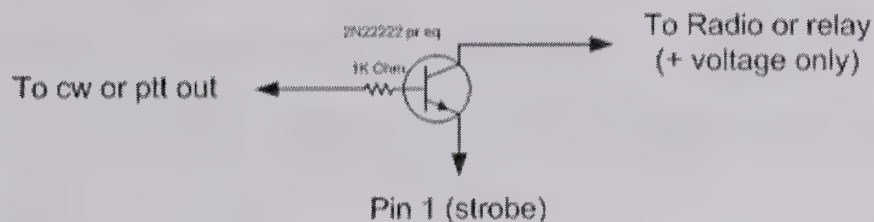
When using an additional interface there are two choices again. You buy the original for your radio or you build one yourself. When you buy an original interface the manual will say what kind of cable you need for it. When you make an interface yourself or buy a not original interface it can be that you are in trouble. The program determines if you have to use a cable with only three wires (software handshaking) or five wires (hardware handshaking).

Software handshaking	DB9	DB25	Hardware handshaking
Ground	pin 5	pin 7	Ground
RXD	pin 2	pin 3	RXD
TXD	pin 3	pin 2	TXD
Not used	pin 7	pin 4	RTS
Not used	pin 8	pin 5	CTS

37.3 CW key and PTT interfacing

37.3.1 Via Parallel port

Below a picture of a possible interface



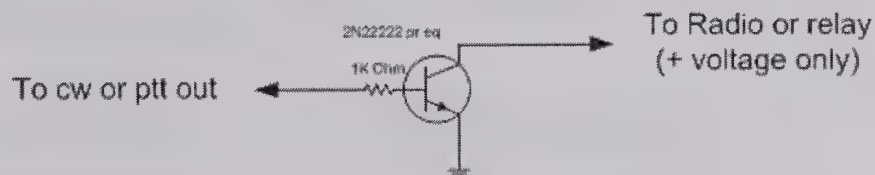
Parallel port cw or ptt interface.
Be careful, pin 1 can only sink a limited current.

Parallel (LPT) port

- Pin 16 – PTT output
- Pin 17 – CW output
- Pin 1 – Ground

N.B. Pin 1 is the return for all other pins. This pin has limited sink capability, so you may need a buffering transistor.

Via Serial Port



Serial port cw or ptt interface

Serial port (9 pin)

- Pin 7 – PTT output (RTS)
- Pin 4 – CW output (DTR)
- Pin 5 – Ground

Serial port (25 pin)

- Pin 4 – PTT output (RTS)
- Pin 20 – CW output (DTR)
- Pin 7 – Ground



Note. The CW- and(!) the PTT-lines are coming from the same serial/parallel port.
Example: When COM4 e.g. is the CW-Port the PTT-line has to be connected at the same jack

- Equivalents for the 2N2222 are 2N3904, BC547 or BC548.

37.4 Additional Parallel Port Interfacing

If the type of CW port chosen is LPT1, LPT2 or LPT3, additional information will be present on the chosen parallel port.

In configurer select for which Radio the output has to be given on the selected port (Radio 1 or Radio 2).

The BCD data on the LPT is that of the current active radio/VFO



Note: The CW port choice determines the port for all parallel/serial port radio interface capabilities (CW, PTT, band, selected radio, etc.).

37.4.1 Parallel port pin layout

LPT pin	Description
1	Return for all other pins. This pin has limited sink capability, so you may need to buffer it
2	Band output (Least Significant Bit) set by Antenna tab in Configurer
7	Band output set by Antenna tab in Configurer
8	Band output set by Antenna tab in Configurer
9	Band output (Most Significant Bit) set by Antenna tab in Configurer
14	Radio 1/2. High = Radio 1/VFO 1, Low = Radio 2/VFO 2
16	PTT output , high = transmit mode
17	CW output

37.4.2 Band decoder output

The pins 9, 8, 7 and 2 can be set using the Antenna tab in Configurer. The output on the pins will follow the selected code which is being set up by the selected antenna.

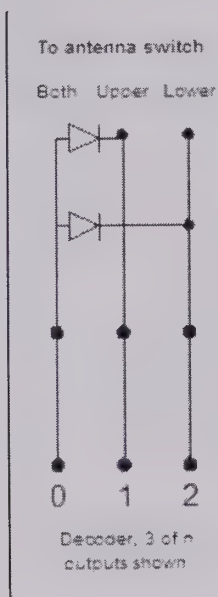
Code	Result on LPT port				Code	Result on LPT port			
	pin 9 D	pin 8 C	pin 7 B	pin 2 A		pin 9 D	pin 8 C	pin 7 B	pin 2 A
0	0	0	0	0	8	1	0	0	0
1	0	0	0	1	9	1	0	0	1
2	0	0	1	0	10	1	0	1	0
3	0	0	1	1	11	1	0	1	1
4	0	1	0	0	12	1	1	0	0
5	0	1	0	1	13	1	1	0	1
6	0	1	1	0	14	1	1	1	0
7	0	1	1	1	15	1	1	1	1

37.4.3 Sample config *Top Ten Devices* automatic band decoder

To replicate the default **Top-Ten Devices** behavior, you would need to set up the Antenna tab in Configurer as shown below:

Code	Antenna	Bands
0		
1	160 mtr	1.8
2	80 mtr	3.5
3	40 mtr	7
4	30 mtr	10
5	20 mtr	14
6	17 mtr	18
7	15 mtr	21
8	12 mtr	24
9	10 mtr	28

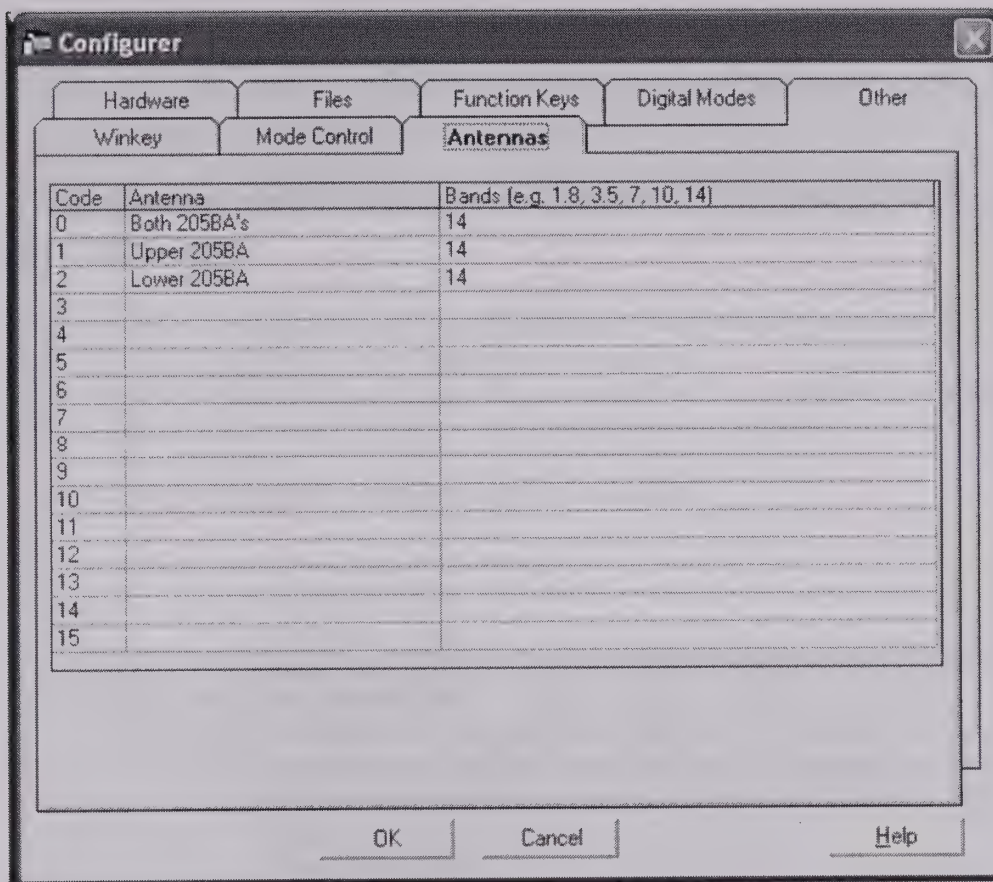
37.4.4 Sample config two stacked antennas



Sample config for switching between two stacked antennas with an automatic antenna switch. This diagram assumes that the decoder emits positive dc voltages from each terminal.

Attach the upper antenna to terminal one, and the lower antenna to terminal two. When the program outputs code 1, the upper antenna will be selected. When the program outputs code 2, the lower antenna will be selected. When the program outputs code 0, both antennas will be selected. Note that 0 is the lowest code, so both antennas will be the default.

The picture below shows the configuration in the Configurer.

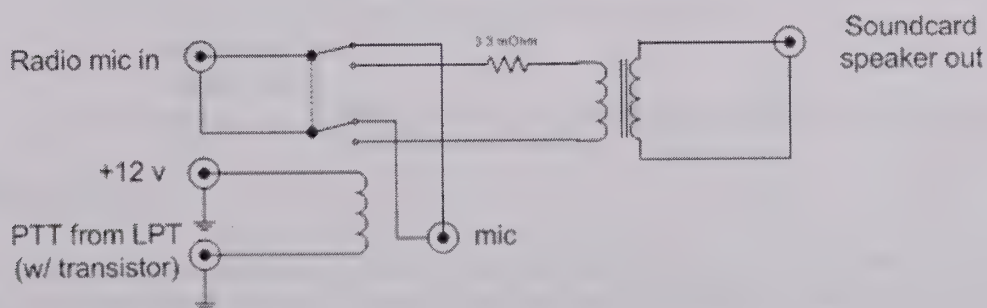


37.4.5 Bearing data

Bearing data for rotator control is currently not available on the LPT port.

37.5 Sound card interfacing

Sound Card DVK Interface



Transformer
Radio Shack 273-1380 or equivalent
8 ohm to soundcard,
1000+ ohm to radio mic in.

Relay
Any dip-type 12v dpdt relay

Sound card DVK

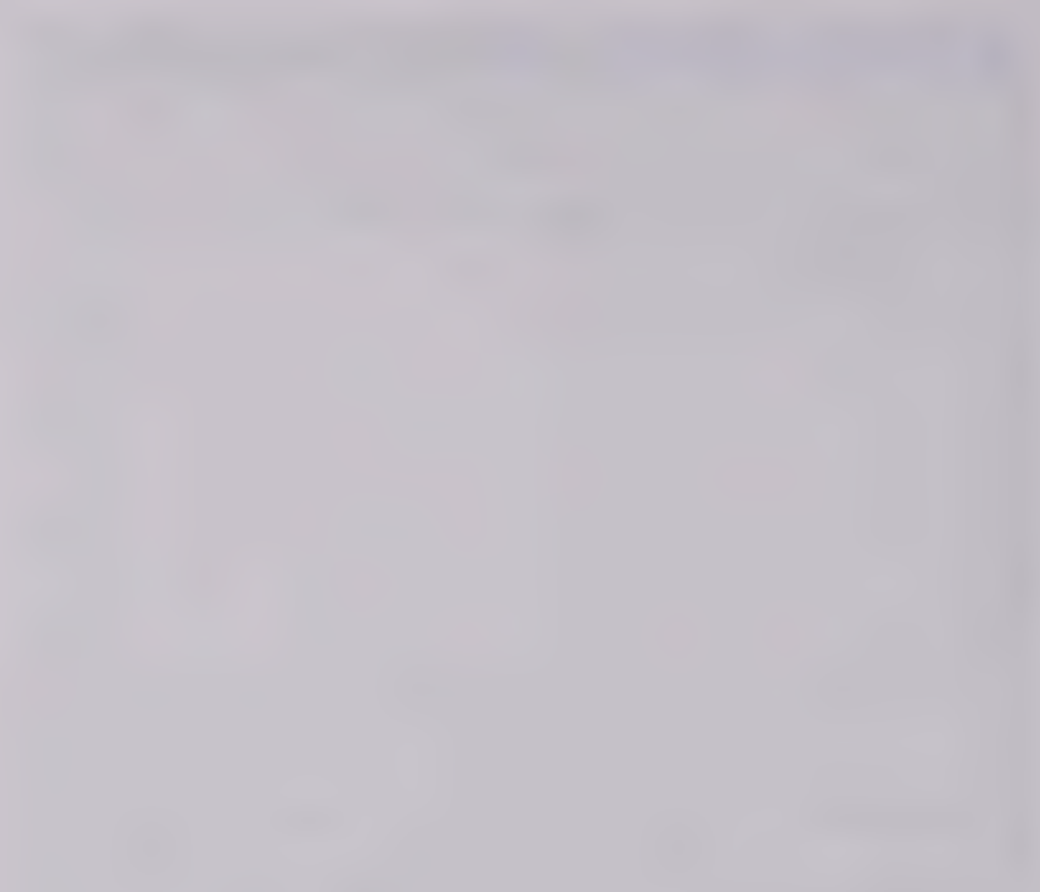


Figure 1: A diagram illustrating the relationship between the variables X and Y. The diagram shows a series of steps or processes leading from X to Y, with intermediate variables Z and W. The diagram is a flowchart with boxes connected by arrows.

The diagram illustrates the relationship between the variables X and Y. The diagram shows a series of steps or processes leading from X to Y, with intermediate variables Z and W. The diagram is a flowchart with boxes connected by arrows. The text below the diagram describes the process in detail, mentioning the variables and the steps involved. The text is written in a clear, concise manner, using simple language to explain the complex process.

- A 8:1000 ohms transformer should be used when the sound card speaker output is used to the radio microphone input.
- A 600:600 ohms (1:1) transformer should be used when the line output from the sound card is used to the radio microphone input.

37.6 Serial and Parallel port interfacing under Windows NT/2000/XP

Windows NT, Windows 2000, XP and their descendants require a special dll called: DLPORTIO.DLL to use the parallel and the serial ports.

Windows 95, 98 (SE), ME don't need this special dll. In these operating systems N1MM logger can access the parallel port direct without the need for an extra driver.

To install the NT/2000/XP capable dll, do the following:

- **Smaller download but more work**

- ◆ Download DLPORTIO.ZIP. A link to this zip file containing dlportio.dll can be found in the installation section.
- ◆ The size is about 851 kb. The actual code installed and operating is tiny compared to the size of the zip file.
- ◆ To install, follow the instructions in section 3.2 of the file DLPORTIO.PDF. It is called: *Automatically Installing the DriverLINX driver*. Below in short what to do:
 - ◇ Copy dlportio.sys and dlportio.dll from the \DriverLINX\drivers folder into the \install folder.
 - ◇ Run install.exe
 - ◇ Reboot your computer
- ◆ You will need to install this dll as the administrator of your machine.

OR

- **Bigger download and easier install, just run the exe**

- ◆ Download PORT95NT.EXE. A link to this zip file containing dlportio.dll can be found in the installation section.
- ◆ The size is about 1610 kb.
- ◆ To install, just run port95nt.exe
 - ◇ Select Next, Yes and typical where appropriate.
 - ◇ Yes to boot your PC
 - ◇ You are done.
- ◆ You have to be the administrator of your machine when running port95nt.exe

37.7 USB ports

Not all computers have serial ports anymore or not enough to control transceivers, packet, serial CW keying etc. In this case consider a usb to serial port adapter. Most of them do nicely control the radio. The problem with these interfaces is doing CW and/or PTT. Test before or ask around if they work for radio control, CW or PTT control with your computer and radio! Also look first if drivers for your operating system are available.

With N1MM CW will only work with native COM ports, not with USB-adapters, this because it uses the dlportio.dll (xp).. This is the price to pay for perfect CW. The answer is Winkey by K1EL. CW transmitted as normal ASCII characters via the COM port. A USB/serial adapter will work fine with K1EL, because it is standard serial communications. This will work even without DLPORTIO. Check

[The text on this page is extremely faint and illegible. It appears to be a multi-paragraph document with several lines of text per paragraph. The content is not discernible.]

the Winkey manual for more information. Not using CW with a USB adapter will be fixed eventually but there is no date yet.

PTT & Rig control should normally work fine with a USB/PCMCIA device.

In some cases PTT does not work well when using USB to serial. Check this Windows setting:

- Control Panel; System Icon,
- Hardware Device Manager Tab or button.
- Expand USB Serial Bus Controllers
- Highlight each USB Root Hub
- Double click for Properties settings, Power Management tab,
- Remove the check mark from 'Allow the computer to turn off this device to save power'.
 - ♦ The box is checked by default in most cases.
- Reboot the computer

Notes from the reflector (don't hold it against us!). Any additions??

A very nice overview can be found at the AA5AU RTTY page at: <http://www.aa5au.com/usb.html>

Manufacturer	Type	Operating System (tested)	Radio	PTT	CW *
Belkin	F5U103 F5U100 Docking station	Window 98 / XP SP1	OK	??	No
Comtrol	RocketPort® Serial Hub	Windows ME	OK	OK	No
EasySync	US232 Two Port USB Adapter	Windows XP	OK	OK	No
IOGear	UC232a	Windows XP Home	OK	OK	No
Prolific	PL-2303 chip		OK	OK	No
Keyspan	USA-19QW	Windows XP SP1	OK	??	No
Sewell	USB to Serial adapter cable		OK		No
Sitecom	CN104		OK	??	No

* CW will not work at the moment. Tom has to do some work to support that. So it is possible that the adapters will work but not with the current versions.

37.8 Everything on one COM port

By Uffe PA5DD.

Since version 2.x.x shared ports era allowed. This allows for example Radio control/PTT/PTT-interrupt/CW on just one COM port, which might be all you have on your laptop. It requires that you make a serial splitter or a common interface. There are some pitfalls though:

- Radio control communication is without hardware handshake (as you are using the hardware control pins for other purposes). This is not a problem as such, since hardware handshake is not used by your radio. True at least for ICOM & YAESU.
- Some interfaces wire RTS/CTS together to allow a PC set for hardware handshake to work properly. This link must be removed for port sharing, as it will generate a permanent PTT interrupt on the CTS pin. This will abort your messages as soon as you start them. Also DSR should not be connected to anything.
- In some radio control serial level converters the handshake signals are used as power

supply. This is not possible if both RTS & DTR are used for CW/PTT. You will have to provide power supply from somewhere else (I use the PS/2 mouse port). Note that in this case you only have to split out GND TXD RXD for the radio control.

37.9 I need more serial ports

By Didier KO4BB

IRQ's are the limiting factor to more than a handful of serial (com) ports. There are 2 ways to address that:

1) You want to use "standard" hardware using Windows "standard" com port model, and as long as the software will let you select IO port and IRQ, and as long as you don't need parallel printer or floppy (and as long as your video card does not use IRQs also), and if the program lets you share IRQs (for instance, you don't need an IRQ for a serial port used to drive the PTT line), (that's a lot of if's!!!) you can probably cram 4 to 6 com ports into a single PC. Note that you may still have problems if you try to run high bit rate on all the ports at once (that should not be a problem with radio control though). Please note that the "standard" PC setup (and Windows) supports 4 com ports with only 2 IRQs. Those who have tried know that you don't want to run high bit rate on COM 1 and COM 3 at the same time because they share the same IRQ.

2a) You do away with standard hardware, and then you can use specialty boards that have 4, 8 or even 16 ports. However, these boards use communication processors so they only need one IRQ from the PC but your software needs to be aware of and be able to communicate with that processor, either through custom software, or through a driver for your OS (Operating System i.e. Windows), or both. That's what ISPs use to gang a bunch of modems to support more than a couple phone lines/modems with each PC. While these may have high communication rate capabilities (because the communications processor uses FIFOs, small memory buffers that store incoming data until the PC is ready to take it), they also offer higher latency (response time) than a native port, not ideal for CW, although with a fast PC, most users have been satisfied with this setup.

2b) USB adapters fall in the category of non-standard hardware, but because USB is now built into the motherboard, the communication processor hardware is directly supported by the BIOS, and the OS has the proper drivers, so that has quickly become a standard. However, the USB standard was not designed to minimize latency, so a USB-serial adapter, while OK to talk to a radio via it's serial port, is not ideal to do things such as CW using bit twiddling. That should be reserved to native serial or parallel ports (motherboard or add-on card). USB adapters are probably a little worse (with regard to latency and CW capability) than custom communication processors described at 2a) because the USB adapters communicate with the PC through a serial link instead of being directly connected to the processor bus, so the bit twiddling has to be done though a serial link, which adds latency. In addition, since the USB port may be shared with other devices, accessing these other devices while sending CW would be a bad thing.

Bottom line: pretty soon, we will want our WinKeys to come with a USB port :-)

37.10 Some interfacing links

- <http://www.microham.com/>
- <http://www.packetradio.com/rascal.html>
- <http://www.sedan.org/tnc2rad.htm>
- <http://www.qsl.net/wm2u/interface.html>
- <http://users.skynet.be/ON4AOI/keyer.shtml>

38 Macros

38.1 General

Macros are key words in a text to send which are being replaced when send. An example is the ! which will be replaced by the station entered in the callsign field. The macros can be used on several places in the program.

- Function key buttons (Entry window)
- Packet buttons (Packet window)
- RTTY programmable buttons (RTTY window)
- PSK programmable buttons (PSK window)

Not all macros can be used on all the places mentioned above.

When placing several macros under a function-key during the sending of it they will be substituted with the contents of the macros.

Example: * will be replaced with your call, so when your call is PA1M a * will be substituted with 6 characters.

Calling a few times another function key with several substitutions in it could bring this up to several 100 characters per function key. To prevent infinite loops the length of the string after substitutions may not exceed 1024 characters. After this length the program will stop substituting. 1024 characters is over 12 lines of text (from 80 characters).



Note: Macros have to be in UPPERCASE

38.1.1 General macros

General macros can be used on all the places mentioned above.

<i>Macro keyword</i>	<i>Substituted by</i>
*	My Call from the Station info dialog, same as {MYCALL}.
!	Sends the callsign entered in the callsign field.
{BEEP}	Make a clicking sound from the PC speaker.
{CALL}	Call in callsign textbox or, if none, the last call logged. Note: This will send the call as it was when the message STARTED. If you want to be able to type the call and send the changes use ! (exclamation point). It does not ever send the previous call, however.
{CLUSTER}	Cluster callsign from Station info dialog. See examples.
{EXCH}	Sent last QSO number.
{FREQ}	Frequency from the contact in the Entry window

{GRID}	Gridsquare from Station info dialog.
{GRIDSQUARE}	Gridsquare from grid textbox (contact in Entry window).
{LOG}	Logs the current contact. Same as ENTER in the Entry Window Digital: Put the {LOG} macro after the {RX} macro...
{LASTCALL}	Call of last station <u>logged</u>
{MYCALL}	My Call from Station info dialog, same as *
{NAME}	Sends the name as entered in the Entry window name field (Example: TARA)
{OTHERFREQ}	Is replaced by the frequency of the non-active radio. Used for passing stations to other bands. Substitutes "R" for decimal on CW.
{PREVNR}	Sends the QSO # of the last logged QSO.
{LRMHZ}	Frequency Left Radio/VFO-A in MHz. Example: 28 when on 28.1234 MHz
{RRMHZ}	Frequency Right Radio/VFO-B in MHz. Example: 14 when on 14.1235 MHz
{RUN}	Sends the last logged callsign and then goes into <i>Running</i> mode.
{S&P}	Sends the last logged callsign and then goes into <i>S&P</i> mode.
{TIMESTAMP}	Date and Time from the contact in the Entry window
{CLEARIT}	Reset the RIT to zero. Note: Will only work for radios that support that function.
{CTRL-A}	Sends Ctrl-A character to TNC. ++
{CTRL-B}	Sends Ctrl-B character to TNC. ++
{CTRL-C}	Sends Ctrl-C character to TNC. ++ See examples.
{CTRL-D} ... {CTRL-Y}	Sends Ctrl-D until Ctrl-Y character to TNC. ++
{CTRL-Z}	Sends Ctrl-Z character to TNC. ++
{ENTER}	Sends ENTER to TNC.
{ENTERLF}	Sends Return/Line Feed to the TNC. Try this if ENTER doesn't seem to work.
{ESC}	Sends Escape character to TNC. ++ See examples.
{DATE}	Short date in Windows format as set in Regional settings.
{DATE1}	Date in Nordlink-TF/WA8DED format (dd.mm.yy)- format: 26.02.99
{SENTRST}	Sends the RST sent as entered in Entry window Snt field

{TIME}	Time in Windows format as set in Regional settings.
{TIME1}	Time in Nordlink-TF/WA8DED format (hh:mm:ss)- format: 20:36:55
{TIME2}	Short GMT time (hhmm)- format: 2036
{DAYTIME}	Date in TAPR DayTime format – format: 0107162036
{DATEGMT}	Date and GMT time – format: 16-jul-01 18:36:55
{TIMEGMT}	GMT time – format: 18:36:55
{F1}	Sends text assigned to function key F1
{F2}	Sends text assigned to function key F2
{F3}	Sends text assigned to function key F3
{F4}	Sends text assigned to function key F4
{F5}	Sends text assigned to function key F5
{F6}	Sends text assigned to function key F6
{F7}	Sends text assigned to function key F7
{F8}	Sends text assigned to function key F8
{F9}	Sends text assigned to function key F9
{F10}	Sends text assigned to function key F10
{F11}	Sends text assigned to function key F11
{F12}	Sends text assigned to function key F12

++ = These macros can not be used in MMTTY and PSK.
The TNC Interface does accept all of the macros above.

38.1.2 CW macros

CW macros are only substituted when used in substitutions for CW buttons.

Macro keyword	Substituted by
<	Increment CW speed with 2 wpm. See examples.
>	Decrement CW speed with 2 wpm. See examples.
~	Send half space character. See examples.
#	Send next (or last) serial number
[	SK
@	AR
]	AS
+	AA
-	BT



Tip: Some calls have letter combinations where it's hard for to copy correctly. E.g. 6Y2A is often copied as BY2A. To help make your call easier to copy, Go to Config > Change Packet/CW/SSB/Digital Message Buttons> Change CW Buttons, and try changing the default F1 and/or F4 message where * is used for your call. In this example, 6Y2A changes F4 from * to>6<~Y2A.

Result: the 6 is sent 2 WPM slower compared to the rest of the call, and an additional half space is added between the 6 and Y. Try other combinations of <, >, or ~ to make your call easier to copy.

38.1.3 SSB macros

SSB macros are only substituted when used in substitutions for ssb buttons.

SSB macros can not be concatenated if the result will be two wav files. A combination with the # macro at the first place will work.

Macro keyword	Substituted by
#	Send next (or last) serial number
{OPERATOR}	Specify wav files like: wav\{OPERATOR}\cq.wav Default to station callsign if not specified. See examples.

38.1.4 SO2R macros

SO2R macros are only substituted when SO2R is selected.

Macro keyword	Substituted by
{JUMPRX}	Change the RX focus to the other input window. If only one input window is shown the second window will be opened.

38.1.5 Multi operator macros

Multi Operator macros are only substituted when in MultiOp mode.

Macro keyword	Substituted by
{PASS 0}	Pass frequency from station 0 (Master station)
{PASS 1}	Pass frequency from station 1
.....	Pass frequency from stations 2 ... 14
{PASS 15}	Pass frequency from station 15

38.1.6 Digital (RTTY and PSK) macros

The following substitutions will be made when sending function key text.

In the Digital interface the macros below can be used but also all other macros shown under general macros.

Macros	Substituted by
{TX}	Starts transmission in the digital interfaces (needed to transmit!)
{RX}	Switches to receive in the digital interfaces (needed to get back to receive)
{GRAB}	Grab first callsign from calllist window via a macro string
{DELALL}	Delete all entries on Calllist
{DELTOP}	Delete Top Entry on Calllist
{DELSEL}	Delete highlighted entry on calllist
_	(Underscore) Sends an idle tone. (Only when using MMTTY)
{PROFILE0}	Resets to HAM Default
{PROFILE1} ... {PROFILE8}	By inserting {PROFILE1} through {PROFILE8} in the function keys at the start of the CQ or S&P macro's will change MMTTY's profile. This way it is possible to have one profile for CQing and another one for S&P or however you want to set them up. (Only when using MMTTY)
{HXXXXX}	For use with the HAL DXP38. The DSP-38 commands are in the form of Hex that look like \$80 \$EA. This macro substitution takes the text string in the form of {HXX or {H80EA} and converts this to the appropriate command that should be sent to the TU

Some Remarks:

- Using the {TX} and {RX} macros will allow macros to be strung together as the radio will not unkey until it sees the {RX} or the RX button is pushed.
- Also ESC will switch the rig to RX.



It is best to add the command that your TNC uses to clear the transmit buffer to the end of your Abort Macro. If not, the transmit buffer still holds the remaining characters that were left in the sent string and will get sent the next time the TNC sends.

38.2 Macro examples

38.2.1 CW macro examples

- **Sent the call entered in the callsign field**
 - ◆ Macro: !
 - ◇ Sent his call. The callsign entered in the callsign entry field will be send by the program via the serial or parallel port.
- **Sent CQ with your call sent as a macro substitution**
 - ◆ Macro: cq~test~de~*
 - ◇ The time between the words is half a second
 - ◇ * will be replaced with the callsign from the Station dialog
- **Sent part of exchange faster (report sent 6 wpm faster)**
 - ◆ Macro: <<<5nn>>>{EXCH}
 - ◇ The report 5nn is send 6 wpm faster than the exchange

38.2.2 SSB macro examples

- **Sent the call entered in the callsign field**
 - ◆ Macro: !
 - ◇ Sent his call. The callsign entered in the callsign entry field will be send by the soundcard. In the 'Letters' directory all the wav files for the letters/numbers etc. must be present. Examples can be found on the N1MM website and select in the left menu: Other Files.
- **Let each operator have his own wav files**
 - ◆ Macro: wav\{OPERATOR}\cq.wav
 - ◇ You can specify wav files like: wav\{OPERATOR}\cq.wav As you change operators in a multi op contest, the wav files will change as well. You will have to name them consistently. Note that wav directory syntax indicates a subdirectory under install directory. You can also fully qualify, like: "C:\wavfiles\cq.wav".
 - ◇ If you ****really**** wanted to, you could have: \wav\{OPERATOR}CQ.wav and name them:
 - N1MMCQ.wav
 - PA1MCQ.wav
 - ◇ Play call with operators voice: {OPERATOR}\letters\!
 - ◇ Play exchange with operators voice: wav\{OPERATOR}\5905.wav
 - ◇ {OPERATOR} is a string substitution only implemented for ssb buttons.

- **Hear a 'click' and not call the dupe (in S&P)**

- ♦ If you set up S&P F6 to issue the command {BEEP}, you will hear a "click" when you try to work a dupe.

38.2.3 RTTY and PSK macro examples

- **Example macros for the PK-232 (Digital interface window)**

<i>Button text</i>	<i>Macro</i>
Abort	{CTRL-C}R{ENTER}TC{ENTER}
TX	X{ENTER}
RX	{CTRL-D}
Band Up	RB U{ENTER}
RxReverse	RXREV T{ENTER}

- **Example function key macros for the PK-232 (Entry window function keys)**

<i>Mode</i>	<i>Button text</i>	<i>Macro</i>
Running	F1 CQ	X{ENTER}CQ CQ CQ TEST DE {MYCALL} {MYCALL} K CQ{CTRL-D}
Running	F2 Exch.	X{ENTER} ! UR 599 {EXCH} 599 {EXCH} BK{CTRL-D}
Running	F3 Tnx/Qrz	X{ENTER} ! TU GL DE {MYCALL} QRZ{CTRL-D}
S&P	F1 {MYCALL}	X{ENTER}! DE {MYCALL} {MYCALL}{CTRL-D}
S&P	F2 Exch.	X{ENTER}! UR 599 {EXCH} 599 {EXCH} GL DE {MYCALL}{CTRL-D}

- **Example macros for the KAM**

<i>Button text</i>	<i>Macro</i>
Abort	{CTRL-C}R RTTY {ENTER}
TX	{CTRL-C}T
RX	{CTRL-C}E

- **Example macros for the SCS PTC (Digital interface window)**

<i>Button text</i>	<i>Macro</i>
Abort	{ESC}CLR{ENTER}{CTRL-D}{ENTER}
TX/RX	{CTRL-Y}
RX-Reverse	{ESC}TR 1{ENTER}

RX-Norm	{ESC}TR 0{ENTER}
45 Baud	{ESC}BAU 45{ENTER}
75 Baud	{ESC}BAU 75{ENTER}
Command mode	{ESC}Q{ENTER}

<i>Button text</i>	<i>Macro</i>
RTTY	{ESC}Q{ENTER}BAU{ENTER}
PSK31	{ESC}Q{ENTER}PSKT{ENTER}
CW	{ESC}Q{ENTER}CWT{ENTER}
AMTOR	{ESC}Q{ENTER}AMTOR{ENTER}
PACTOR	{ESC}Q{ENTER}PT{ENTER}
PACKET	{ESC}Q{ENTER}PACKET{ENTER}

• Example function key macros for the SCS PTC (Entry window function keys)

<i>Mode</i>	<i>Button text</i>	<i>Macro</i>
Running	F1 CQ	{CTRL-Y}CQ TEST DE * * * k{ENTER}{CTRL-Y}
Running	F2 EXCH	{CTRL-Y}! HI 599 {EXCH} {EXCH} K{CTRL-Y}
Running	F3 CFM	{CTRL-Y}! QSL TU DE * QRZ? K{CTRL-Y}
S&P	F1 CALL	{CTRL-Y}! DE * * K{CTRL-Y}
S&P	F2 EXCH	{CTRL-Y}DE * TU 599 {EXCH} {EXCH} GL DE *{CTRL-Y}

• Example macros for MMTTY (Entry window function keys)

<i>Mode</i>	<i>Button text</i>	<i>Macro</i>
Running	F1 CQ	{TX}CQ CQ CQ TEST DE {MYCALL} {MYCALL} K CQ{RX}
Running	F2 Exch.	{TX} ! UR 599 {EXCH} 599 {EXCH} BK{RX}
Running	F3 Tnx/QRZ	{TX} ! TU GL DE {MYCALL} QRZ{RX}
S	F1 {MYCALL}	{TX}! DE {MYCALL} {MYCALL}{RX}
S	F2 Exch.	{TX}! UR 599 {EXCH} 599 {EXCH} GL DE {MYCALL}{RX}
Send CQ which starts on a new line		{TX}{ENTERLF} CQ DE {MYCALL}{RX}

38.2.4 Packet macro examples

- **Connect the Local DXcluster using TAPR firmware:**

- ◆ {CTRL-C}{C}{CLUSTER}{ENTER}
the above sentence is specified for a function key in the Packet Window.
 - ◇ {CTRL-C} sends a Control-C character to the TNC which is placed in command mode.
 - ◇ {CLUSTER} will be substituted with the Packet Node Call from the Station Information dialog. In my case PI8RWD-7.
 - ◇ {ENTER} will be substituted with the Enter key.
- ◆ The result is that the TNC is placed in Command mode (with CTRL-C) and C PI8RWD-7 is sent to the TNC because an Enter is sent after the command.

- **Connect the Local DXcluster using TF/Nordlink firmware:**

- ◆ {ESC}{C}{CLUSTER}{ENTER}
the above sentence is specified for a function key in the Packet Window.
 - ◇ {ESC} places an Escape character in the command line buffer. This is the same as Shift-Escape when the cursor is on the command line from the Packet Window.
 - ◇ {CLUSTER} will be substituted with the Packet Node Call from the Station Information dialog. In my case PI8RWD-7.
 - ◇ {ENTER} will be substituted with the Enter key.
- ◆ The result is that the TNC is placed in Command mode (with ESC) and C PI8RWD-7 is sent to the TNC because an Enter is sent after the command.

- **This is an example where more commands are placed under one function key:**

- ◆ {ESC}{I}{MYCALL}{ENTER}{ESC}{P} 100{ENTER}{ESC}{S}1{ENTER}{ESC}{C}{CLUSTER}{ENTER}
the above sentence is specified for a function key in the Packet Window.
 - ◇ {ESC}{I}{MYCALL}{ENTER}
Sends my call to the TNC.
 - ◇ {ESC}{P} 100{ENTER}
Change the Persistence to 100
 - ◇ {ESC}{S}1{ENTER}
Change to channel 1
 - ◇ {ESC}{C}{CLUSTER}{ENTER}
Connects my local DXcluster

So one function keys does it all!!

39 Multi User Support

It is possible to use N1MM logger in Multi-User Multi-Transmitter operation. For this to work you need at least two networked computers with a maximum of 15. These computers need to have network interface cards. The networking protocol used is TCP/IP. The network needs a so called "Master" station. The "Master" station is the one that sets the time, connects to packet/telnet, etc. The Master station has number 0.

39.1 Features

- Maximum of 16 networked computers with one 'master' station (0-15).
- Use of standard network interface cards (NICs).
- IP-addresses are used during configuring.
- Talk capability between networked stations.
- Automatic time synchronization.
- Pass frequency information between stations.
- Packet
 - ◆ Distributed to all connected computers.
 - ◆ The ability to send packet commands to the master station, from there it will be send out to the cluster.
- Error messages when a station can't be questioned/updated.
- The Info window gives status information and extra options.

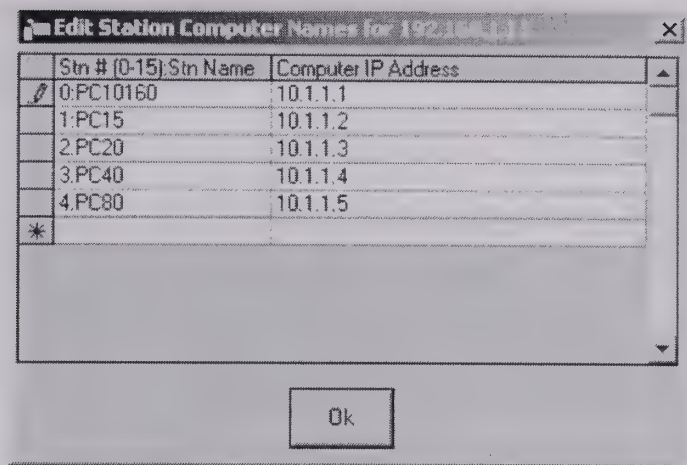
39.2 Configuration

Assumed is that the network is setup and working correctly so every computer can ping and 'see' all the other computers in the 'Networking environment' (My Network Places etc.). You must be able to ping every computer from every other computer before proceeding with these instructions. It is not important if the network uses twisted-pair or coax cable etc.

A network connected to the computers serial ports as being used in older DOS programs is not supported.

- **Setup all the computers**
 - ◆ Setup all the computers with their radio's as if they were being used stand-alone. So the radio can be controlled, PTT/CW/.Wav files are working etc. Just as you like it.
 - ◆ All computers have to use the **same version** of the program N1MM logger.
- **Only for the "Master" station**
 - ◆ Packet/Telnet has to be working **only** on this computer.
 - ◆ Set the computer clock to the right time. Every computer will use this time!
 - ◆ This has to be station **0** !!!
- **Setup the Computer numbers with their associated names on all computers**

Your window will be similar to this one. This is an example of a five computer network.



- ◆ Go to "Config | Edit Station Computer Names"
 - ◇ Stn # (0-15):Stn Name – Enter the station number starting with 0 for the master station. The computer name may be entered after a :
The computer name can be chosen independently from the Windows computer (NetBIOS) name.
The "Master" station *MUST BE* number 0 and the others must be numbered 1,2,3 in order.
 - ◇ Computer IP Address – Enter the computer IP-address.
- ◆ All the computers should have the same settings. Don't swap any entries!
- **All 'other' networked stations** (not the "Master" station)
 - ◆ Select the Telnet window to have all packet cluster info shown.
 - ◇ The Packet window won't give any info on a slave computer.
 - ◇ So always the Telnet window on the slaves, no matter if you use Packet or Telnet on master.
 - ◆ Set up all the stations identically before starting multi-user mode.
- ✗ **Tip: The setup information is kept in the database. Set up the contest & the multi-user configuration info on one computer including messages etc.. Copy the database to the other computers and have it all set up.**
- **Start Multi-user mode**
 - ◆ Go to "Config | Multi-User Mode"
Clicking on this selection will enable this option.

39.3 Multi-User Tools

Adding and deleting qso's all works automatically. Also that the bandmaps are filled with spots from the packet/telnet connection from the "Master" station.

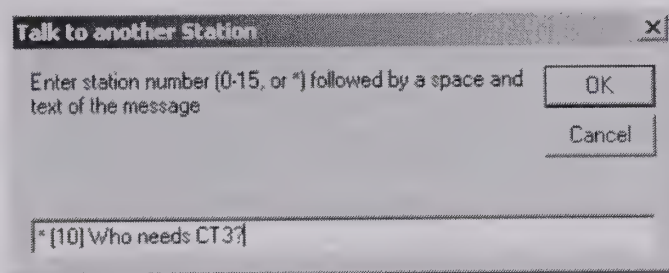
Below are some tools which you may use.

Go to " | Multi-User Tools"

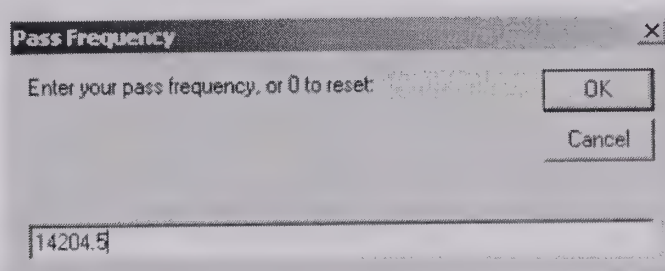
- **Talk to another station** **Ctrl-E** – Send a message to one or all stations.
Enter station number (0-15 or *) followed by a space followed by the text of the message.
Default the program places a * and behind that the band of the station who sends the message.
Possible station numbers

- ◆ * – will send the message to all stations
- ◆ 0 – send a message to station 0 (Master station)
- ◆ 1 – send a message to station 1
- ◆ Etc.

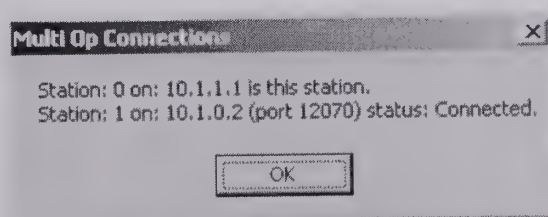
Omitting the number or '*' will send to all stations.



- **Force Time Sync Now** – Force date and time synchronization with the "Master" computer. This happens automatically at start up and every 5 minutes thereafter.
 - ◆ There are tools for resyncing your time with Internet time standards. A nice one used by N1MM logger users is Dimension 4
- **Set your pass frequency Alt-Z** – Send the frequency that you would like other stations to send contacts to. The pass frequency will be sent to all your multi-user computers currently connected. If you just want stations sent to your CQ frequency, you do not need to set the pass frequency. At the present time, the pass frequency is reset only after restarting the program. If you put {PASS 3} in one of your CW or RTTY messages, the current pass (or cq) frequency for station #3 will be sent in the message. When sent in CW, the program will automatically substitute 'R' for the decimal point. DO NOT enter 'R' in the pass frequency.
 - ◆ Enter 0 to reset your frequency.
 - ◆ The pass frequency is shown in the first bottom pane of the Entry window when entered and in the info window .



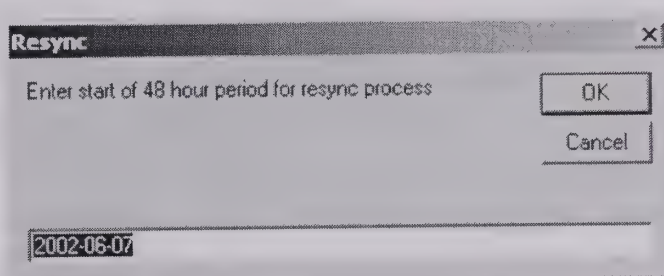
- **Log QSOs at all stations** – Check this option to log all qso's on all stations. All other information (packet spots, pass frequencies) are still distributed to all networked stations.
- **Show Connections** – Show connection info from all the network stations.



Status messages:

- ◆ *Connected* – a connection has been made with that station
- ◆ *Listening* – listening for the master station, no connection made (yet)

- ◆ *Error* – the Master station is not there (or not in Multi-user mode)
- **Resync Logs by Date** – Allows a computer to gather all differing qso's from other computers in the network for a 48 hour period.
 - ◆ Enter the start date for the resync (48 hour contests). The date and time shown defaults to the time of the first contact in this computers log. If there is no log, then it defaults to the date of the contest from the log selection dialog.
 - ◆ The contests to resync have to be the same (all computers should have selected the same contest. Example: CQWWSSB).
 - ◆ Resync only *pulls* qso's from other computers to the computer where the resync is requested. The resync is not bi-directional. It does not push qso's to other stations. This way it does not load down the other computers as much.
 - ◆ When resyncing old logs you should just have to put in the correct starting point. The contacts **must be logged with the correct station number (which is in the database)**. I.e. Station 0 will only send qso's that are recorded for station 0. Station 1 will only send qso's that are recorded for station 1.



- **Resync Last n Hours** – Allows a computer to gather all differing qso's from other computers for a period. The period is set in hours. For more info about resync see 'Resync Logs by Date'.
- **Trace Multi-User Messages** – Check this option to trace the Multi-user messages send and received by the station to a trace file (*.TRC). A file name can be entered. This option is normally only used for error/bug tracking.\
- **Force Other Station to Stop Transmitting When I Transmit** – option to force other station to stop sending.

39.4 Information

The picture below shows the bottom part of the Info window where multi user information needed during contesting is displayed.

Right clicking on the green/red icons will show a menu. See the Info window for more information.

Station	Pass	Run	Operator	Last 10	100	Freq
① USA	28235	☒	N1MM	0	0	28235.0
② *Europe		☐	PA3CEF	12	13	14263.0

12:20:34 - Connected to USA [64.252.136.17]

- Connection status:
 - ◆ **Green** – Connected
 - ◆ **Red** – Not connected
 - ◆ **Light red** – Connection in progress or connection lost, the program will try to solve this situation..
- Station name
- Pass frequency
- Is he running or S&P
- Who is the operator

- Rate information

39.4.1 Run/pass frequency

39.4.2 Rules

The following 'smart' rules for run/pass frequency are implemented.

Running

- I'm on & running
 - ♦ If the running check box is checked, always send to run frequency.

Not running

- I have a run frequency, but I'm chasing a multiplier.
 - ♦ The run frequency holds for 1 min, then get's zeroed.
- I'm not running, and I have a pass frequency way up the band.
 - ♦ The user will have to specify the pass frequency.
- Don't pass, my pass frequency is no good.
 - ♦ I guess it is the operators responsibility to zero the pass frequency.
Maybe a timer to remind if no qso's on pass frequency for n minutes?
 - ♦ This is not yet implemented
- Don't pass, my cq frequency is no good.
 - ♦ Timer with no cq's or qso's on run frequency for 1 min?
 - ♦ This is not yet implemented

39.4.3 Displaying rules

Running – show run frequency

Not running – show pass frequency if non-zero, if no pass frequency then show last cq frequency if non-zero.

39.5 Macro keys

Macro key substitution is supported by most programmable buttons in the program. For Multi-user mode there are a few specific macros which can be found on the [macros page](#).

39.6 Features

- **Remote stack call stacking:** Call stacking between computers, enter a callsign on a remote computers 'stack'.
 - ♦ Shift-Enter after specifying which station(s) you are stacking for.
 - ♦ To indicate which station you want to stack for, right click on it's "cue-ball" in the info window, and select the option "Target for call stacking".
- **Prohibit transmitting**
 - ♦ If another station is sending **single operator or multi-one** don't allow sending if another station is sending
 - ♦ If another station is sending **multi-two or multi-multi** don't allow sending on same band.

- ♦ See also the option in the Multi-User tools under Config: **Force Other Station to Stop Transmitting When I Transmit**

39.7 Other info

- Deleting qso's made by another station in a Multi-user situation is not allowed, a warning message is shown.
- Station 0 sends all incoming spots to every station so the bandmaps are being filled. Use the **Telnet** window (not the Packet window) on the other computers in the network. If you send a message to the packet cluster from any station in the network it will be sent out to packet/telnet via computer 0. The received answer from the packet cluster will be sent out on the network.
- The program can't be shutdown while initializing Multi-user otherwise unpredictable situations could occur.
- You will be prompted for the operator call if it has not been entered (with Ctrl-O). Periodic warning message will be shown if no operator has been specified
- The cq/pass frequencies will be requested at startup.
- The Info window is flashed red when a message arrives.
- When going through the possible contests you will see a "contest" DELETEDQS . This is not a contest but deleted qso's will be put in here by the program, this is especially for multi-user support.
- Connection status is shown at the bottom of info window.
- A connection is checked every 10 seconds.
- All connections are stopped/started when database, contest or connection list is changed.
- Also Non-master stations are allowed to close telnet/packet ports.
- Time synchronization is only shown on the master station.
- If you Mark or Store spots on a local machine, they will be Marked or Stored on all other machines.
- The station name prefixes telnet/packet commands that are displayed. The prefix is not sent to the cluster. Example: [20M] sh/dx.
- When a connection drops out it will try to reconnect every 30 seconds.
- Note that multi-two MUST use multi-user mode and keep run & mult station numbers the same throughout the contest. This is to keep the radio number in the Cabrillo output consequent. Cabrillo only outputs a radio number when using multi-two or multi-multi.
- Any station that is harmonically related with the frequency will be colored **red** in the Info window.
- For single operator and multi-one, the operator callsign will be colored **red** when transmitting.
- Serial numbers are issued with one separate sequence per band, when the Multi-user mode is enabled. When the Multi-user mode is off, serial numbers are issued in one global sequence
- Group edits are not allowed in the Log window while in multi-user mode.

39.8 Example Multi User setup

The example below uses file sharing and Netbios lookup for computer (you can see them in the Networking environment). This is not necessary for N1MM logger to work. When the computers can be 'pinged' from both sides this is enough to work. All lines with a * are not necessary to work but are nice to have for other purposes like updating of files etc. This does not mean that the action mentioned should not be done. It can also be done via other media (CD / diskettes). In that case the Windows network is not used, as the N1MM network is using the TCP/IP stack only.

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THE EFFECT OF THE DIET ON THE BLOOD SUGAR IN THE NORMAL ADULT
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39.8.1 Before the contest

Master computer:

- Enable File sharing for Windows networks (*)
- Enable "sharing" on master harddisk (*)
- Have all installation files ready on master (*)
- Set Master IP address according to Station Computer Names list (see below)
 - ◆ might include a restart& Win98 CD
 - ◆ note previous IP setting for restoration after contest
- Note master Windows computer (NetBIOS) name & workgroup (*)
- Start N1MM Logger
- Select a new empty database (eg. PACC2003.MDB) on master
- Start a new log for the contest (eg. PACC) (check manual)
- Configure Function keys (SSB/CW/Packet)
- Edit Station Computer Names according to plan, eg.:
 - ◆ Stn#:Stn Name Computer IP Address
 - ◆ 0:master 192.168.10.10
 - ◆ 1:160M 192.168.10.1
 - ◆ 2:80M 192.168.10.2
- Load the relevant country file (eg. CTY-PACC.DAT) (Tools menu)
- Select the Master.dta file to use (File | Choose contest)
- Establish DX cluster communications on the master computer (Packet or Telnet)
- Setup windows as template for all computers
 - ◆ Export windows settings
- Setup or disable internal firewalls

Non-master computers:

- Install Network card& TCP/IP when not already done
- Setup or disable internal firewalls
- Enable File sharing for Windows networks (*)
- Set IP address according to Station Computer Names list
 - ◆ Windows 95/98/ME: might include a restart& Windows CD
 - ◆ Note previous IP setting for restoration after contest
- Find master on the Windows network (*)
 - ◆ use Search Computers in Network Neighborhood/Places using the masters Windows computer (NetBIOS) name)
- Install/Update N1MM Logger
 - ◆ copy from master via network (*)
- Copy database (eg.PACC2003.MDB) from master on this computer
 - ◆ copy from master via network (*)
- Copy WAV directory from master on this computer
 - ◆ copy from master via network (*)

All computers:

- Start N1MM Logger
- Import windows settings
- Open database (eg. PACC2003.MDB) (File menu) / Select PACC log
- Set Multi-user on
- Setup configuration (Rig control, PTT, CW) & Export Program settings
- Turn off Windows sounds if using WAV files

39.8.2 During the contest

- Check master time setting regularly
 - ◆ use Internet time server if possible so it is done automatically
- Observe network status, and reconnect/resync if necessary on all computers
 - ◆ note that a resync only imports QSOs **to** the computer you import from! The computer where the import comes from is not being updated with the log from computer where you import to (the computer which you import to)

39.8.3 After the contest

- make sure all used computers are connected
- do a resync on all computers
- check QSOs/multiplier status on all computers & compare
- copy&compact database (eg. PACC2003.MDB) to backup directory
- restore IP settings & Windows sounds scheme on borrowed PCs

39.9 Multi User via the internet

It is possible to setup some or all of the other stations outside your LAN on the internet. There are some caveats when trying this. You need more than basic computer knowledge for this. You need to know about IP-addresses, firewalls, routers, port settings, NAT etc.

You need to know your computer (external) IP-address. When directly connected to the web this can be obtained using the program ipconfig.exe (NT, 2000, XP) or winipcfg.exe (95,98,ME). This command ipconfig should be entered in a DOS window to see the output. When your computer is in a LAN your connection to the internet will probably be made via a router. All computers will use internal IP-addresses, the router uses the external IP-address. This link will give your (external) ip-address in both cases: <http://megawx.aws.com/support/faq/software/ip.asp>

When a multi-user connection connection is not working anymore check the IP-addresses. This address changes from time-to time (when dynamic). Mostly after a reboot from PC when directly connected or a reboot from your router when in a lan.

The router should be setup to route incoming traffic from port 12070 to your PC IP-address. No port transformation should be done. Instructions for this will not be given in detail. With the many different kind of routers this can not be done. Remember, this is a specialist job!

Firewall – Open port 12070 for incoming traffic.

Router – You probably should use NAT to route incoming traffic on port 12070 (for first PC in the list) to your PC IP-address.

Example setup: Config, Edit Station Computer Names

- A * has to be entered before the name of the local computer. This enables the local computer to determine it identity in case an external IP address is being used in the Computer Names list.
 - ◆ Examples (see also pictures below):
 - ◆ 0:*USA

◇ 1:*Europe

- NB the IP-address given in this example is not the IP-address from Tom, N1MM :-)
- The upper picture shows the setup at N1MM (USA), the lower picture at PA1M (Europe).

A screenshot of a Windows-style dialog box titled "Edit Station Computer Names for 192.168.0.6". It contains a table with two columns: "Stn # (0-15): Stn Name" and "Computer IP Address". The table has three rows: a header row, a row for "0:USA" with IP "64.252.136.17", and a row for "1:*Europe" with IP "213.51.240.249". There is an asterisk in the first column of the third row. Below the table is a large empty text area and an "Ok" button.

Stn # (0-15): Stn Name	Computer IP Address
0:USA	64.252.136.17
1:*Europe	213.51.240.249

A screenshot of a Windows-style dialog box titled "Edit Station Computer Names for 192.168.1.16". It contains a table with two columns: "Stn # (0-15): Stn Name" and "Computer IP Address". The table has three rows: a header row, a row for "0:USA" with IP "64.252.116.123", and a row for "1:*Europe" with IP "192.168.1.16". There is an asterisk in the first column of the third row. Below the table is a large empty text area and an "Ok" button.

Stn # (0-15): Stn Name	Computer IP Address
0:USA	64.252.116.123
1:*Europe	192.168.1.16

40 SO2R

40.1 The Basics

Single Operator 2 Radio (aka SO2R) is an operating technique that when done properly, can add many extra QSOs and multipliers to your log. This is accomplished by increasing your efficiency during "dead" time, specifically when you are sending on one radio. Efficiency is increased by listening on a 2nd receiver while you are transmitting on the 1st radio. On the 2nd radio you are scanning the bands for needed QSOs and multipliers. If you find a new station to work on the 2nd radio, you leave it staged on the 2nd Entry Window until you get a free moment to work this station. Even adding a few QSOs an hour will greatly boost your score.

The philosophy for SO2R development is to allow any two radios to be used, they do not have to be identical. In it's most simple form, two transceivers feed two separate antennas on two different bands; with sufficient attention to antenna separation and filtering, it is possible to do this without interference from a transmitting rig to a receiving rig. A large % of the very serious SO2R ops use identical radios just to keep the confusion factor. But having identical radios isn't necessary with any software...

Then, the receiver on one band is used to locate new contacts during the time that the transmitter on the other band is active. This can mean that you tune while your computer sends CQ. In some contests, particularly the North American Sprint CW contest, unusual contest formats can make SO2R even more useful. But, for the most part, SO2R is most useful during the CQWW and ARRL DX CW contests. The most critical requirement for SO2R is automated transmission -- if you have to speak into a microphone or squeeze a paddle while you tune the receiver you will not make the most of the second receiver. This means that a DVK is needed for phone SO2R.

Especially phone SO2R is an extremely tiring activity. It's easy to reach a level of mental fatigue while operating SO2R that results in an overall score reduction rather than helping your score. This is another reason that the Sprint CW contest is particularly adapted to SO2R -- it's only 4 hours long.

If your radio is not supported by N1MM (e.g. the JRC radios), or it's an old radio with no computer interface, the radio can still be used, but you just don't get automated rig control on that radio.

In SO2V, which is "Single Operator 2 VFO's", you hook up one radio. If your rig simply has 2 VFO's, VFO A/B will be assigned to each of the Entry Windows. If you have a rig with a sub-RX, each of the RXs gets assigned to each of the Entry Windows. When developing the specs, we actually felt SO2V would be more widely used than SO2R. When operating SO2V (and SO2R), you also need to change your LPT keying from Radio 1 (default) to BOTH. Otherwise you will not get any keying on radio 2.

Only two radios will be supported (or 2 RXs depending on how you look at it).

This means one radio with two VFO's (A/B) is being used rather than two separate radios. SO2V is more 'normal' for most people, as most are not set up for SO2R. Logger's SO2V interface is essentially identical to the SO2R interface, but with SO2V you are using a single radio, presumably with a 2nd receiver. Two windows can be displayed in SO2V, one for VFO A & B. SO2V makes better use of the 2nd receiver now present in most high-end radios. With the 2nd receiver, you can be tuning the band while you are listening for a response to your CQ. Since you cannot listen on the sub-receiver while transmitting, SO2V is not as efficient as SO2R. While SO2V can also increase your score, the big increases come with SO2R (if done correctly).



For the new SO2R operator, we have 3 words for you: practice, practice, practice! SO2R is definitely a learned skill that takes time to learn, and even longer to master.

40.2 Intuitive User Interface

As you will quickly see, Logger's SO2R implementation is more intuitive than most other SO2R implementations:

- Entry Windows can be arranged to reflect equipment layout
- Entry Windows can be used for any function (not dedicated functions like others)
- You always know what each VFO is going to send next (when in ESM mode)
- Visual cues identifying transmit focus, Run vs. S&P, and more!

40.3 Supported features

Logger supports all of the features you would expect from any world-class SO2R software. In addition, there are a lot of unique features:

- Supports 2 radios – No support for 3 or more radios
- Two Entry windows are displayed that are fully interchangeable in functionality (windows are not dedicated to a specific task).
- Traditional Running and S&P mode is maintained for each SO2R Entry window, such that the 2 windows can be used for:
 - ◆ Running / S&P
 - ◆ S&P / Running
 - ◆ S&P / S&P
 - ◆ Running / Running (not implemented yet)
- Entry windows can be arranged on screen as desired: typically left/right, or top/bottom, to represent physical station layout
- Each Entry Window has a frequency readout in the top pane
- 'LEDs' identify which radio has focus. The sending radio has a **red** LED indicating TX Focus, a **green** LED identifies the radio that has RX **and** Keyboard focus (combined)
- Background colors of the entry field change color depending on whether that radio is running or S&P: white = run; canary = S&P
- Ability to change frequency of alternate radio from existing radio. Use the / before entering the frequency in the callsign field to enter frequency for other radio/vfo
- Supports Enter Sends Messages Mode (ESM) on both windows
- Typing a call in 2nd S&P Entry window does not abort sending on RUN radio
- Hitting Escape stops sending on either VFO, but does not change focus
- Changing transmit focus (for any function) stops sending before switching and sending on alternate radio
- Ctrl-function keys and Ctrl-Enter sends messages on alternate radio (Concept is Ctrl = Alternate radio control)
- "Hotkeys" for specific tasks and sending on alternate radio (not implemented yet)
- All Key Assignments work on both radios (unless otherwise specified)
- Supports Top Ten DX Doubler and WX0B Station Master
- Support SO2R if neither radios are interfaced.
- Dueling CQ's will send CQ (without delay) alternately on each radio (Ctrl+B).
- If dueling CQ's and CQ sent then both radios become run radios.
- Resume CQ on Run Radio will start CQ again on the run radio whenever you are not sending on the S&P radio (Ctrl+X).
- A SO2R software radio lockout for digital is implemented t

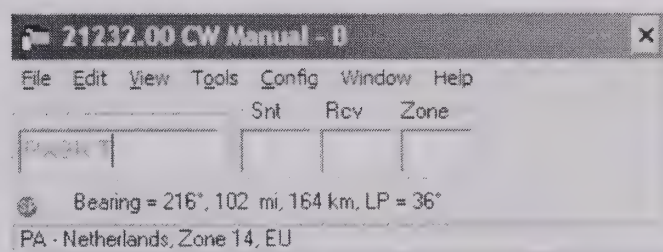
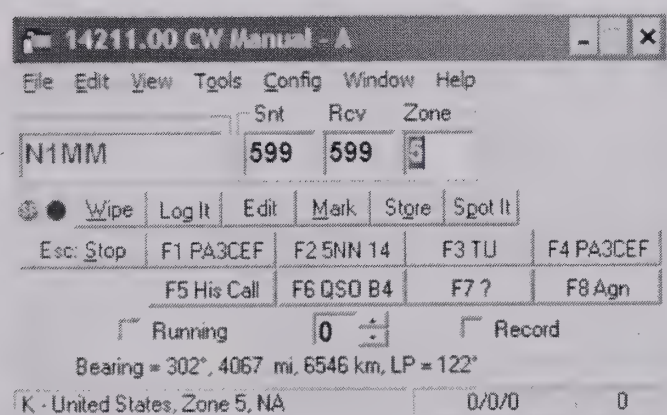
40.4 How to use N1MM Logger SO2R features with examples

(section on hold until SO2R is fully implemented)

40.5 Entry Windows

Entry windows can be placed anywhere on the screen. Typically people will position them similar to their equipment layout i.e. if the radios are positioned left/right, the windows are arranged reflect that. For those who stack their equipment top/bottom, you can position the screens so they logically mirror that radio setup too.

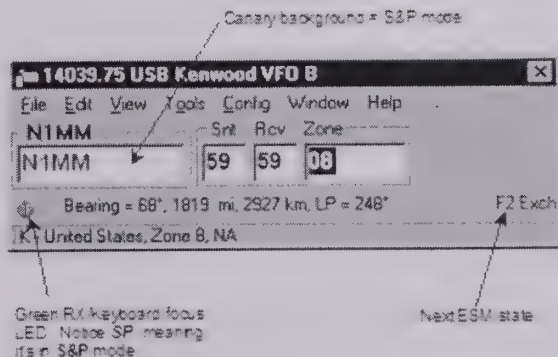
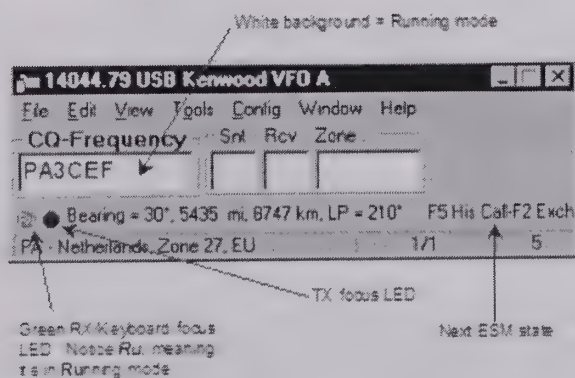
Screen real estate is in short supply. To minimize screen real estate, you can shrink the Entry Windows compared to the default layout (View > Hide buttons). Below is an example of the default Entry Window and a minimized version.



To launch the 2nd Entry Window, hit the \ button.

40.6 Typical SO2R Entry Windows

Most people who are comfortable with Logger tend to use the reduced size Entry Windows in the below examples. All of the vital information an operator needs is displayed in the smaller window. Most SO2R ops get the most efficiency while CQing on 1 radio, and S&P'ing on the other. The below Entry Window examples reflect a typical setup: The left VFO (A) is now assigned to running, and the right VFO (B) is assigned to S&P.



All of the features that are available to the single radio operator also work in SO2R/SO2V. For

example, when tuning the band with the S&P VFO, spots that are in the bandmap are automatically inserted into each call frame (above callsign entry window) when you tune across the frequency of the spot. Hitting the space bar will pull the callsign from the call frame into the QSO field. Then if a station calls you on the run radio, toggling back and forth between Entry Windows with the \ key or Ctrl Left/Right arrows will keep the all the information each Entry Window until the respective stations are logged, wiped clean via Alt-W or Ctrl-W, or you QSY and the callsign is entered into the bandmap (if "QSYing wipes the call && spots QSO in bandmap" is implemented).

40.7 The SO2R dots (LEDs)

On the Entry Window a green and/or a red dot (LED) might be shown. The LEDs are visual aids that help you easily identify what is happening on each radio. This is part of N1MM's continuing philosophy of letting the operator easily know what's happening at any give time.

The green LED indicates that VFO has receive+keyboard focus and the red LED indicates that VFO has transmit (TX) focus. In addition, the red TX LED changes between dark red (TX focus) and bright red (VFO/radio is transmitting). Inside the LED are letters which identify different states (see below).

40.7.1 Dot/LED colors used:

Green dot/LED – This VFO/Radio has receive (RX) and keyboard focus. RX and keyboard focus are always together.

- ◆ Inside the green dot the Ru/SP (Run/S&P) designators are shown. Ru means the station is in running mode, and SP means the station is in S&P mode.
- ◆ RX/keyboard focus can be toggled between the VFO's/radios by
 - ◇ using a mouse to click on a free space in one of the two Entry windows
 - ◇ pressing the \ key (backslash)
- ◆ To move both Transmit and Receive focus
 - ◇ pressing Ctrl-Left-Arrow / Ctrl-Right-Arrow will move both focii to the left and right radios

Red dot/LED – This VFO/Radio has transmit (TX) focus

- ◆ Transmit (TX) focus can be changed between the VFO's/radios by pressing the F10 key
- ◆ To move both Transmit and Receive focu pressing Ctrl-Left-Arrow / Ctrl-Right-Arrow will move both focii to the left and right radios
- ◆ During transmitting the TX focus can not be changed
- ◆ When the VFO had TX focus, the LED is dark red. When that VFO is transmitting, the LED changes to bright red
- ◆ Inside the red dot the R (Repeat) designator is shown when Repeat mode (for CQing) is active

40.8 Key Assignments (unique to SO2R):

- **Backslash (\)** – Launches a second Entry Window if only one Entry window is open
 - ◆ **One radio** – change Receive (RX) and transmit (TX) focus
 - ◆ **Two radios** – change Receive/Keyboard (RX) focus
- **F10** – toggles only transmit focus

- **Ctrl-Left arrow** – In SO2R move both Transmit and Receive/Keyboard focus to left radio, or in SO2V move both TX and RX/Keyboard focus to VFO A
- **Ctrl-Right arrow** – In SO2R move both Transmit and Receive/Keyboard focus to right radio, or in SO2V move both TX and RX/Keyboard focus to VFO B
- **Pause** – Swap both TX and RX/Keyboard focus
- **Ctrl-Enter** – Send next ESM state on alternate radio (assuming ESM turned on)
- **Ctrl-F1 to F8** – Send message (for that function key) on alternate radio.
- **Ctrl+B** Dueling CQ's will send CQ (without delay) alternately on each radio. If dueling CQ's and CQ sent both radios become run radios
- **Ctrl+X** Resume CQ on Run Radio will start CQ again on the run radio whenever you are not sending on the S&P radio.

40.9 Mouse Assignments:

- **Left mouse key and right mouse key**
 - ♦ on a free space in one of the two Entry windows changes the Receive focus to that radio/vfo

40.10 SO2R menu (under Tools)

- **SO2R**
 - ♦ **Dueling CQ's Ctrl+B** – will send CQ (without delay) alternately on each radio.
 - ♦ **Resume CQ on Run Radio Ctrl+X** – will start CQ again on the run radio whenever you are not sending on the S&P radio.
 - ♦ **TX Lockout** – Select a lockout item.
 - ♦ **Multi-TX** – This is the default setting. Start CQ on radio A, Start CQ on radio B, both are active. (no lockout)
 - ♦ **First one wins** – Start CQ on radio A, pause, Start CQ on radio B. The radio B CQ is ignored since radio A is already active.
 - ♦ **Last one wins** – Start CQ on radio A (CQ starts), pause, Start CQ on radio B. The CQ on radio A will abort and the CQ on radio B will start.

40.11 Software Setup

Setting up SO2R and SO2V starts in the Config menu:

- Config > "Configure Ports, Telnet Address, Other" > Hardware Tab

Then if SO2V:

- Set up radio
- Set up keying if necessary (LPT or Winkey)
- Click SO2V button
- Click OK to close Config window
- Launch Logger, set up contest etc.
- If 2nd Entry Window is not shown, hit the \ key (backlash key)

Then if SO2R:

- Set up radios
- Set up keying if necessary (LPT or Winkey)
- Click SO2R button

- Configure left/right radio in pop up box (when you click on SO2R button)
- Click OK
- Launch Logger, set up contest etc.
- If 2nd Entry Window is not shown, hit the \ key (backlash key)
- SO2R – 1 computer radio + 1 manual radio (so two radios)
- SO2V – 1 computer radio with 2 vfo's and no manual radio (so one radio)

Selected Mode	Radios attached	Choices	Selection
SO2R	None	• SO2R – Left Manual, Right Manual	Automatically selected
SO2R	1 (Kenwood)	• SO2R – Left Manual, Right Kenwood Com1 • SO2R – Left Kenwood Com1, Right Manual	Select one
SO2R	2 (Kenwood & FT847)	• SO2R – Left Kenwood Com 1, Right FT847 Com 2 • SO2R – Left FT847 Com1, Right Kenwood Com 2	Select one
SO2V	1 (Kenwood)	• SO2V – Kenwood	Automatically selected

40.11.1 LPT keying

When operating SO2V (and SO2R), you also need to change your LPT keying from Radio 1 (default) to BOTH. Otherwise you will not get any keying on radio 2.

40.12 SO2R Using DX Doubler or SO2R Master

Logger is compatible with both the Top Ten Devices "DX Doubler" and the Array Solutions (aka WX0B) "SO2R Master". These products will automatically control keying, PTT and audio lines to each radio.

Hooking up these controllers will require a straight-through DB-25 cable from your LPT port of your computer to the input DB-25 connector on these products. For hooking up the rest of the keying and audio lines for these products, consult their respective manuals. Both products use the same pin-outs on the LPT port.

So far, neither of the manuals for these products mention setting up for SO2R with N1MM logger. Each external device has two basic settings for software: "CT/TR/Writelog" and "NA". NA uses slightly different controls. To use N1MM logger with these external devices, just configure the external controller for "CT/TR/Writelog".

To get Logger to correctly key and control these devices, you need to set up your keying as follows:

Config > "Configure Ports, Telnet Address, Other" > Hardware Tab

40.12.1 If LPT Keying with external SO2R controllers:

- Config > "Configure Ports, Telnet Address, Other" > Hardware Tab
- Check LPT keying box – check only one LPT box
- Click on the corresponding "Set" button for the LPT port
- Click on "Radio Nr" drop down box and select BOTH
- Click on OK to set configuration



Note: There were a couple of errors on the DX-doubler PC board. Go to:
<http://www.qth.com/topten/appnotes.htm> to see the DXD mods.

40.12.2 If using Winkey with external SO2R controllers:

The WinKey device will work with two radios. WinKey has PIC pin 3 output, which is normal CW and PIC pin 5 which is PTT. Under software control Pin 3 can be Radio 1 CW and Pin 5 can be Radio 2 CW outputs. The serial port assigned to the WinKey device should have the "Hardware" tab "Set" and WinKey checked and Radio Nr set to both. Plus the SO2R activated on the "Hardware" tab. Then goto the "WinKey" tab and set Pin 5 function to "2nd CW"

The "K" output on the WinKey board goes to Radio 1 CW and the "P" output goes to Radio 2 CW. Logger takes care of all the switching provided you activate the proper radio.

40.13 SO2R Radio Support

All radios supported before will work with SO2R. Since many operators will use an older radio (no computer interface) to get active in SO2R, Logger will allow you to use any combination of computer controlled and non-computer controlled radios. If you use a radio that is not supported or has no radio control, do not set up a radio for it's COM port. You only set up that information when you have a computer controlled radio.

If you are using a radio with no computer controll, when you select the SO2R Button on the Config > Config Ports > Hardware tab, you can select whether VFO A or VFO B will be computer controlled or manual.

40.14 SO2R and MMTTY

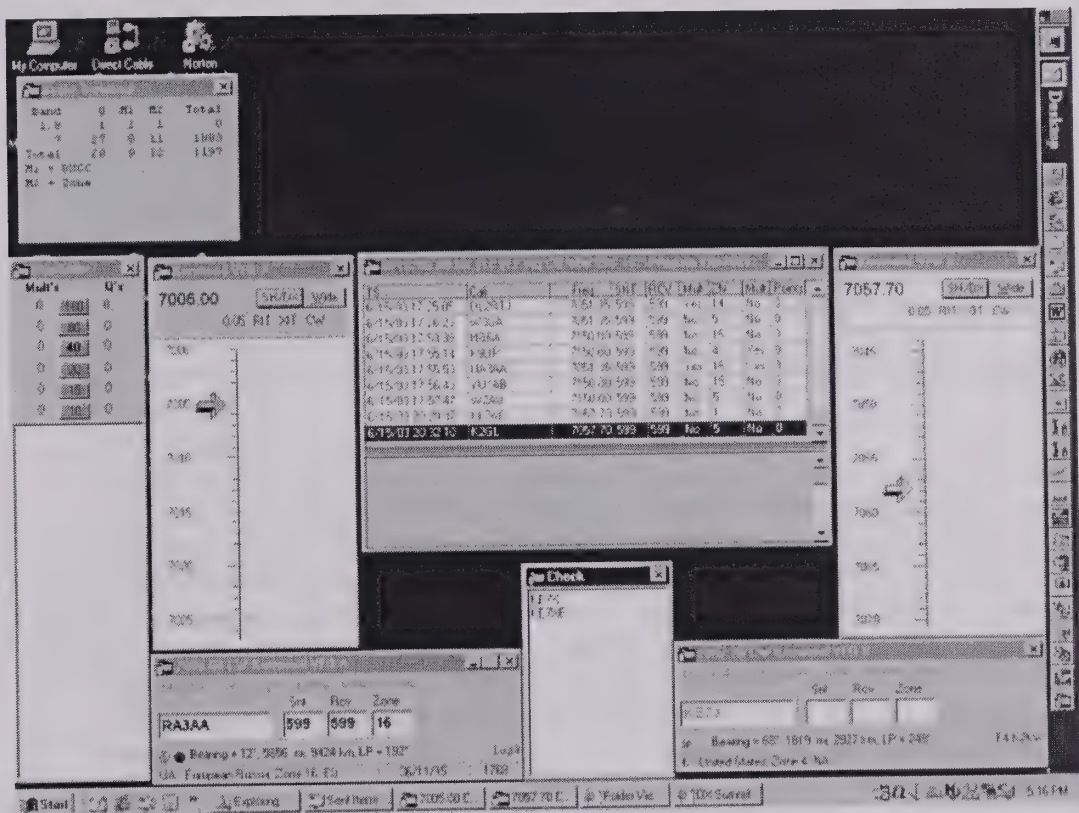
Below some info about MMTTY soundcard setup in SO2R.

- First you need to create 2 separate directories that MMTTY will reside in. This allows you to save 2 different profiles
- Second you need to set the paths in the configurer to each copy of MMTTY.
- Then run the program and open the first digital window.
 - ♦ Go into MMTTY's setup area and under the Misc. tab select the sound card you are using 0,1,2,3 don't select -1.
- Open the second digital interface
 - ♦ Go into MMTTY's setup area and under the Misc. tab select the sound card you are using 0,1,2,3 don't select -1.
- When MMTTY loads go into the setup and tell it what sound card to use.
 - ♦ The next time you load up the interfaces all this info should be saved in the MMTTY profiles.

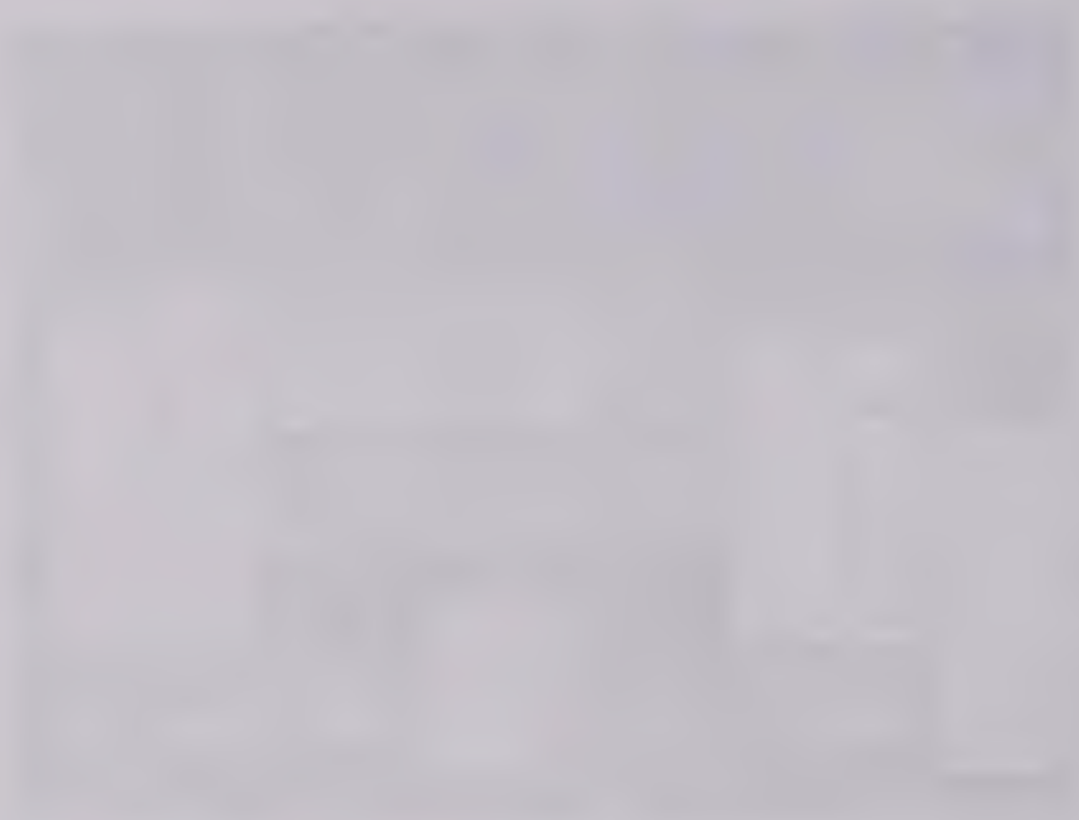
One thing to keep in mind.. The 2nd port you have marked for digital will be the ptt port for the second digital window.

40.15 Example screen layout

The following screen shot was taken by K2KW from a 17" screen. Notice the window symmetry for left and right VFO, as well as left and right band map. Essential information that is used by both radios was placed in the center: Check Window and Log Window. Of course other operators may have different preferences regarding window layout – but the most intuitive is to have the window layout reflect the equipment configuration.



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DEPARTMENT OF CHEMISTRY
JANUARY 1964
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LIBRARY



41 Supported Radios

Go look here for Radio Computer interfacing



Note. Not all the features listed in this Help/manual might be applicable to all the transceivers and brands mentioned below.
Known settings for transceivers or features not applicable are mentioned below as far as we know them.
Please inform us if you have information which should/could be mentioned here.

41.1 General

- When using a **home-brew self-powered interface** set the handshaking to:
 - ◆ DTR – Always **On**
 - ◆ RTS – Always **On**
 - ◆ Like when using ICOM clone cables
- All radios: Band change is not allowed while transmitting
- All radios: Timeout for all radios is set to 10 seconds (user settable).
 - ◆ A warning message will be displayed when no response from the radio and the radio will be changed to a manual radio.
 - ◆ To get the radio working again select in the right-click menu from the bandmap "Reset radios"
 - ◆ The 10 second wait time is restarted after transmitting.
 - ◆ When the radio control gives a warning 10 seconds after you start the logger, then you never had radio control at all, and you should check your hardware, and serial port settings. Consult the manual from your radio and also read below.
- Polling of radios while sending CW is supported for all radio except for FT-1000.
- It may appear that the **Up Arrow**, **Down Arrow**, **Page Up** or **Page Down** are not working when incrementing or decrementing the current frequency with these keys.
 - ◆ The vfo freq will not change if the increment/decrement amount is smaller than the frequency deltas supported by your rig. This is not always well documented by the manufacturer.
 - ◆ Icom 751 rigs for example do support 10 Hz steps but only show 100 Hz steps on the display.
 - ◆ The keys mentioned above have to be set higher than the minimum step size supported by the radio.
 - ◆ It's easy to test if it is the keys are working. Check the frequency while pressing the keys mentioned above. If the frequency moves nothing has to be changed.
 - ◆ The default increment/decrement for CW is 10 Hz. If this doesn't work, try changing it to 100 Hz, under the Configurer, Other tab.
 - ◆ This only applies to the keys that increment/decrement the *current* frequency.

41.2 Icom

- Almost every rig requires an ICOM CT-17 CI-V interface or compatible. A great list of CI-V interfaces is at <http://www.plicht.de/ekki/civ/civ-p2.html> and <http://www.eham.net/reviews/products/53>
- Icom rigs use software handshaking. That means they do not use DTR and RTS. However, interfaces that get their power from the RS232 port require you to set DTR and/or RTS to "Always On" to supply power to the interface. Check your interface manual to see how DTR and RTS must be set.

- Set N1MM Logger and the rig to:
 - ◆ Address – see specific rig information below
 - ◆ Baud Rate – 9600 or 19200 (see specific rig maximum rates below)
 - ◆ Data Bits – 8 bits
 - ◆ Parity – None
 - ◆ Stop Bits – 1 bit
- On your rig, set:
 - ◆ "CI-V Transceive" to OFF – **this is very important.** You will see frequency errors and have sluggish performance unless this is set to OFF.
 - ◆ "CI-V with 731/735" to OFF. On some rigs this is referred to "4 or 5 Byte Data" or "Frequency Data Length". You want your rig to use 5 data bytes for the frequency. A few rigs noted below do not have this option.
- VFO A=B is send to ICOM radios before setting split frequency
- Frequencies > 2 GHz are ignored and not sent to the radio.
- The models below are supported:
 - ◆ **IC-1275A/E** using address 18 hex and 9600 bps.
 - ◆ **IC-275A/E/H** using address 10 hex and 9600 bps.
 - ◆ **IC-475A/E/H** using address 14 hex and 9600 bps.
 - ◆ **IC-706** using address 48 hex and 19200 bps.
 - ◆ **IC-718** using address 5E hex and 19200 bps.
 - ◇ Set N1MM Logger to 19200 bps and the radio to "AT". There are some reports that "HI" on the rig is the same as 19200. Please email us if you know what "HI" means.
 - ◆ **IC-725** using address 28 hex and 9600 bps.
 - ◆ **IC-728** using address 38 hex and 9600 bps.
 - ◆ **IC-729** using address 3A hex and 9600 bps.
 - ◆ **IC-735** using address 04 hex and 9600 bps.
 - ◇ This rig is fixed at using 4 bytes for the Frequency Data Length.
 - ◆ **IC-736** using address 40 hex and 9600 bps.
 - ◆ **IC-737/737A** using address 3C hex and 9600 bps.
 - ◆ **IC-738** using address 44 hex and 9600 bps.
 - ◆ **IC-746** using address 56 hex and 19200 bps.
 - ◇ VFO-B is a virtual VFO as long it isn't activated. The scale is not controlled by the VFO-B of the transceiver. It becomes an active VFO when it is activated. The IC-746 is switched to VFO-B and set to the frequency shown in the VFO-B bandmap.
 - ◆ **IC-746 PRO** using address 66 hex and 19200 bps.
 - ◆ **IC-751/751A** using address 1C hex and 9600 bps.
 - ◇ We don't know if the rig has CI-V Transceive, or if it supports CI-V with 735/731. Please email us if you know the answers.
 - ◇ Rig can not handle split frequency or duplex operation commands.
 - ◇ This rig actually uses the old CI-IV system and uses the UX-14 to convert to CI-V.
 - ◆ **IC-756** using address 50 hex and 19200 bps.
 - ◆ **IC-756 PRO** using address 5C hex and 19200 bps.
 - ◆ **IC-756 PRO II** using address 64 hex and 19200 bps.
 - ◆ **IC-761** using address 1E hex and 9600 bps.
 - ◇ Rig can not handle split frequency or duplex operation commands.
 - ◆ **IC-765** using address 2C hex and 9600 bps.
 - ◆ **IC-775/775DSP** using address 46 hex and 19200 bps.
 - ◆ **IC-781** using address 26 hex and 9600 bps.

41.3 Kenwood

- **All models are supported**
 - ♦ Newer models connect directly via a serial port cable.
 - ♦ Older models need the Kenwood IF-10 or the IF-232C interface (or compatible).
- Software handshaking is being used.
- **Kenwood** uses by default:
 - ♦ Speed: 4800 Baud
 - ♦ Parity: N
 - ♦ Databits: 8
 - ♦ Stopbits: 2 (!)
 - ♦ When setting split both VFO's are forced in the same mode.
- **TS-570**
 - ♦ When using the ACC2 port on the back, you must send both the audio signal and the PTT signal to the ACC jack.
 - ♦ You can't use the normal PTT connection from the MIC jack if you are inputting audio into the ACC jack.
- **TS-2000**
 - ♦ Uses default 9600 Baud and 1 stopbit
 - ♦ When using 4800 baud, 2 stopbits must be used!
 - ♦ With menu item 56 the speed can be changed.
 - ♦ Also works for frequencies above 100 MHz

41.4 TenTec

- The models below are supported
 - ♦ **OMNI-VI**
 - ◊ Equal to Icom 735 code with added ability to set PTT
 - ♦ **ORION**
 - ◊ Firmware version 1.363 or greater needed.
 - ◊ PTT cannot be implemented with Orion
 - ◊ Defaults bandwidths: CW: 300/800; SSB: 2000/2800; RTTY 250/400
 - ◊ CW on main rx is LCW
- Other models are not supported

41.5 Yaesu

- The models below are supported
 - ♦ **FT-100**
 - ♦ **FT-817**
 - ♦ **FT-840**
 - ♦ **FT-847**
 - ♦ **FT-890**
 - ♦ **FT-900**
 - ♦ **FT-920**
 - ♦ **FT-990**
 - ♦ **FT-1000**
 - ♦ **FT-1000MP**
- Required interfaces
 - ♦ Newer models connect directly via a serial port cable
 - ♦ Older models need the Yaesu FIF-232C CAT interface (or compatible).
- Software handshaking is being used for all models.

- **Yaesu** uses by default:
 - ◆ Speed: 4800 Baud
 - ◆ Parity: N
 - ◆ Databits: 8
 - ◆ Stopbits: **2 (!)** Newer models seem to have changed to 1 stopbit
- **FT-100D**
 - ◆ The FT-100D has an internal jumper for either CAT/TUNER or LINEAR. This should be set for CAT/TUNER.
 - ◆ Configure the radio as FT-100, 4800, N, 8, 2, Handshake, Tx=1, DTR=CW, RTS=PTT.
 - ◆ Needs a standard FT-100 CAT cable (CT-62).
- **FT-847**
 - ◆ Split Operation does not work, because it is not supported via the CAT-connection. So it has to be done manually by the operator.
 - ◆ RIT and XIT in the bandmaps are not working, because this is not supported by the FT-847.
 - ◆ Also working for frequencies above 100 MHz
- **FT-920**
 - ◆ PTT via CAT supported
- **FT-1000**
 - ◆ If the bandmap/frequency is not updating, the radio probably is in MemTune mode. Use the VFO/MEM switch.
 - ◇ Because of this the program forces the radio at startup from mem/tune mode in vfo mode.
- **FT-1000MP (Mark-V)(Field)**
 - ◆ Please see also Key Assignments (Ctrl-F9 and Ctrl-F12)
 - ◆ The program can't send CW via the MP's serial cable. See the help for how to build a CW interface
 - ◆ If the bandmap/frequency is not updating, the radio probably is in MemTune mode. Use the VFO/MEM switch.
 - ◇ Because of this the program forces the radio at startup from mem/tune mode in VFO mode.
 - ◇ The indicator should show VFO.
 - ◆ Use a straight serial cable
 - ◆ 4800,N,8,2 and DTR & RTS set to "Always Off"
- Setting filters for the **FT-1000 series, FT-990 and FT-920**. Simply right-click on the bandmap and you will get a menu which includes "Set transceiver filter codes" ... there are six submenus: CW Wide, CW Narrow, SSB Wide, SSB Narrow, Digi Wide and Digi Narrow. In my case the commands for SO2V are:
 - ◆ The settings below will work for the FT-1000, FT-1000D, the FT-1000MP, the FT-1000MP/MKV and the FT-1000MP/MKV Field (or any combination of two FT-1000 "family" of rigs in SO2R).
 - ◆ For SO2R (two rigs) configure the two bandmaps the same.

Filter	Width	Setting	Remarks
CW Wide	500 Hz	0 0 0 2 140	
CW Narrow	250 Hz	0 0 0 3 140	
SSB Wide	2.4 KHz	0 0 0 0 140	
SSB Narrow	2.0 KHz	0 0 0 1 140	
Digi Wide	2.0 KHz	0 0 0 1 140	Duplicates default filter selection
Digi Narrow	500 Hz	0 0 0 2 140	Duplicates default filter selection

Digi Wide	500 Hz	0 0 0 2 140	Optional settings
Digi Narrow	250 Hz	0 0 0 3 140	Optional settings

- Filter width is meaningless on the VFOB Bandmap as the second receive only supports bandwidths of 6.0 KHz, 2.4 KHz and 500 Hz.

Filter	Width	Setting	Remarks
CW Wide	500 Hz	0 0 0 130 140	
SSB Wide	2.4 KHz	0 0 0 128 140	
Digi Wide	500 Hz	0 0 0 130 140	

- Some notes
 - ♦ "Duplicates default filter settings" is appropriate to the F1000 MK/V and Field only. The FT-1000/D/MP permit more flexible filter selection.
 - ♦ The FT-920 does not support 2.0 KHz and 250 Hz filters ... it might make more sense to revise CW and Digi settings for 2.4/500 Hz (0 0 0 0 140 and 0 0 0 2 140) filters.
 - ♦ Even though the FT-920 lacks the second receiver, the FT-920 permits selecting different bandwidths for each VFO. The CAT commands are the same as those for the second receiver in the "1000" series: 0 0 0 130 140 selects 500 Hz and 0 0 0 128 140 selects 2.4 KHz.
 - ♦ The FT-990 commands are the same as those for VFO A in the "1000" series of radios.

41.6 Other brands

- **Elecraft K2** with serial interface uses Kenwood alike commands so use the Kenwood setting. Only the KY command which is Elecraft specific is not supported.
- No other brands are supported yet

42 Example Function Keys

Below some example function keys for some SSB/CW/RTTY contests.

CW	SSB	RTTY
		WPX RTTY
		RTTY sprint

42.1 CW

..

42.2 SSB

The .wav files can be anywhere in the N1MMLogger, folder, as long as the filename in the FKey setup includes the path. If in the wav folder, than it should read wav\[filename]. If in another, for example arrldx, it would read arrldx\[filename].

42.3 RTTY

42.3.1 Example WPX RTTY

Here is a freely "translated" set from the AA5AU's messages at <http://www.rttycontesting.com/rttymessages.html> The examples mentioned are for a different contesting program. For those who are not familiar with the macro commands in that program, here is a freely "translated" set for N1MM's Entry window buttons using ESM, for contests with exchanges similar to WPX RTTY. These are based on AA5AU's suggestions but with a couple of twists of my own. Those of you who have been using N1MM in RTTY contests for a while will already have messages set up that suit you better, but for anyone starting out in RTTY maybe this will help get you going:

```
F1 CQ,{TX} CQ TEST DE ** CQ{RX}
F2 Exch, 599 {EXCH} {EXCH} ! BK{RX}
F3 TU,{TX}{ENTERLF} ! TU DE * QRZ?{RX}
F4 {MYCALL},{TX} DE * K{RX}
F5 His Call,{TX}{ENTERLF} !
F6 B4,{TX} B4 DE * CQ{RX}
F7 Rpt Exch,{TX} {EXCH} {EXCH} {EXCH} {EXCH} K{RX}
F8 Agn,{TX} AGN AGN DE * K{RX}
F1 CQ,{TX} CQ CQ DE ** CQ{RX}
F2 Exch,{TX}{ENTERLF} DE * TU 599 {EXCH} {EXCH} {EXCH} BK{RX}
F3 TU,{TX} ! TU {RX}
F4 Call Him,{TX} DE *** K{RX}
F5 1x1,{TX} ! DE * K{RX}
F6 0x1,{TX} DE * K{RX}
F7 Rpt Exch,{TX} {EXCH} {EXCH} {EXCH} {EXCH} BK{RX}
F8 Agn,{TX} AGN AGN de * K{RX}
```

For other contests and wherever they are different from WPX, making the corresponding changes. You can save each different set of messages in a separate file and load the desired set before the

contest – the set above is my WPX_RTTY.mc file.

I made a distinction between the exchange you use while running and the one you use S&P. N1MM does, and I have taken advantage of this.

Running, AA5AU's (F3) exchange becomes my F5 + F2. If you are not using ESM, or even if you are but you want to program a similar exchange message in the Digital Interface window buttons, combine my F5 and F2 into a single message. I have taken the liberty of adding the ! at the end. AA5AU does this in his (F8) tail-ender exchange, but not in his dual-purpose (F3) exchange message.

S&P, you do not need the other guy's call sign in the exchange, so in the S&P F2 I have replaced it with a third copy of the serial number. AA5AU suggests adding DE * for the S&P exchange, and I have taken the additional liberty in my example of putting this at the beginning instead of the end – sometimes one is better, sometimes the other, so use what you are most comfortable with.

AA5AU has two different requests for repeats, one for the call sign (F6) and one for the exchange (F10). I have combined these into a single purpose "Agn" message in F8, mainly because in Run mode the number of free Entry window buttons is limited. If you have "Work dupes" selected, you don't need a B4 message and you could use F6 for this. In the Digital Interface window, you have lots of room and you can easily program separate buttons for all sorts of things.

AA5AU's set has a tail-end message, (F8). I would put this in a Digital Interface button, where it would look something like:

```
{TX}{ENTERLF} {LASTCALL} QSL TU NOW ! 599 {EXCH} {EXCH} ! BK{RX}
```

This assumes you have already logged the last QSO – if not, maybe the message should start out with {LOG}. You might also experiment with using {GRAB} in place of the first !. Warning: I have not tried this out yet, and "correct" behavior is not guaranteed. This is an area where experimentation may pay off.

When S&P, I like to have lots of different choices for calling the CQer, so in addition to putting AA5AU's (F5) in F4 (S&P) and his (F7) in F4 (Run) and F6 (S&P), I have added a 1x1 call in F5 (S&P). You may have better uses for these keys; you should change them to suit your preferences.

73, Rich VE3IAY

42.3.2 Example RTTY Sprint

```
F1 CQ,{TX} CQ NA DE ** NA{RX}
F2 Exch, * {EXCH} BK{RX}
F3 TU,{TX} TU{ENTERLF}{RX}
F4 {MYCALL},{TX} DE * K{RX}
F5 His Call,{TX}{ENTERLF} !
F6 B4,{TX} B4 DE * CQ{RX}
F7 Rpt Exch,{TX} ! DE * {EXCH} {EXCH} K{RX}
F8 Agn,{TX} AGN AGN DE * K{RX}
F1 CQ,{TX} CQ NA DE ** NA{RX}
F2 Exch,{TX}{ENTERLF} ! {EXCH} * K{RX}
F3 His Call,{TX} ! {RX}
F4 {MYCALL},{TX} DE ** K{RX}
F5 NR,{TX} ### K{RX}
F6 NAME,{TX} RICH RICH RICH BK{RX}
F7 QTH,{TX} ON ON ON BK{RX}
```

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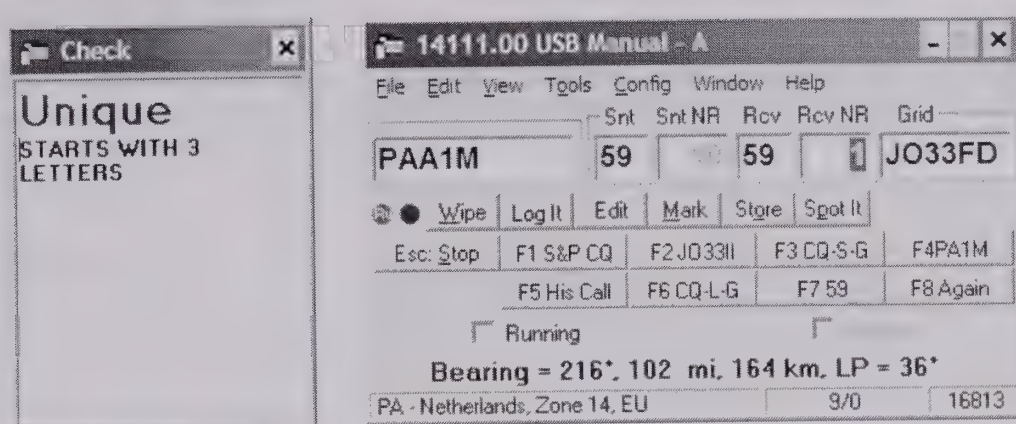
F8 Agn,{TX} AGN AGN DE * K{RX}

73, Rich VE3IAY

42.4

43 Call Checking

Dave Robbins, K1TTT's call checking code has been implemented in the program. When a callsign is entered it is checked against a pattern file to see if the callsign entered is a possible callsign. A warning will be given when this is not true. The messages appears in the **check window**.



This feature can really help our UBN rates if we get good rules!

Note that the call checking function only works for **HF (no WARC)** and **CW/SSB** and only when **nothing is found in the CHECK window**. So not for RTTY etc. and not on VHF and up!



****WARNING**** Do not assume that if the program gives a warning that the callsign is not possible and has to be removed from the log. Some of these rules are already outdated due to countries changing callsign sequences or issuing special contest calls.

43.1 Updating the pattern file

Unfortunately many countries have changed their callsign assignment process over the last years and many will change the coming years. Because of this the rules may not be valid. The rules are in the callsign.pat file in the program directory. The rules need constant updating, so if you have any rules or find broken rules for your country, please post them.

Note the following:

- Lines that start with ! are comments and are ignored by the program
- Lines alternate, first there is a text message that would be displayed for the user and should basically state what the problem is.
- After the text message is a cryptic line that is the machine readable part of the rule.

When reviewing the rules please look mostly at the text messages, these should give you a basic explanation of what the rule is. When you send updates please give a short description of what the rule is, similar to the text messages already in. Write longer explanations if needed to explain all the nuances of a particular callsign rule. If you can't make up the code part for the particular callsign scheme just send it in and we will help. If a rule in the file now is no longer valid please include both lines from the file in your message and an explanation or example of why it is no longer a bad call pattern.

The following table shows the results of the survey conducted in 1994-1995. The data is presented in a table format with columns for the year, the number of respondents, and the percentage of respondents who answered 'Yes' and 'No'.

Year	Number of respondents	Yes (%)	No (%)
1994	100	75	25
1995	100	70	30

The results of the survey indicate that the majority of respondents answered 'Yes' to the question. This suggests that the majority of respondents are in favor of the proposed changes.

The survey was conducted in 1994-1995. The data is presented in a table format with columns for the year, the number of respondents, and the percentage of respondents who answered 'Yes' and 'No'.

Year	Number of respondents	Yes (%)	No (%)
1994	100	75	25
1995	100	70	30

The results of the survey indicate that the majority of respondents answered 'Yes' to the question. This suggests that the majority of respondents are in favor of the proposed changes.

The survey was conducted in 1994-1995. The data is presented in a table format with columns for the year, the number of respondents, and the percentage of respondents who answered 'Yes' and 'No'.

At present the rule file is limited to 200 rules, but can easily be expanded.



Please do not to make up rules just for oneself. This is a golden opportunity to give back to the group with your knowledge of your home country's call sign standards.

43.2 The pattern file

A rule 'pattern' describes a bad callsign character by character. As long as the call matches the pattern the procedure continues. If the pattern runs out before the end of the callsign then the rest is assumed to match. If the callsign runs out of characters first then it doesn't match and the call is passes as good.

43.2.1 Components

The components that make up a 'rule' are:

Single characters:

- A match the letter 'A'
- 1 match the number '1'
- Etc.

Repetition flags	These must be followed by a character type specifier:	To make up phrases like:
: Match one	N match any character (A-Z, 0-9)	:D match one of any digit
+ Match one or more	A match any letter(A-Z)	+A match one of any digit
* match zero or more	D match any digit (0-9)	*N match zero or more letters or digits
- optional match		-D optionally match one digit

Groups of characters to match:

- [] match
- ! match any characters not in list
- match a range of characters

Which can make up phrases like

- [ABCFXZ] match a,b,c,f,x, or z
- [!ABC] match anything other than a,b, or c
- [!A-R] match anything other than letters a to r

More info is given below like checking bands and modes.

43.2.2 Examples

The following are some simple examples of patterns and what they match or don't match.

Pattern	Pattern matches	Pattern doesn't match
:A:D	A1 Z0 Q8	AA 19 1A

+A:D	A1	AA1	ABC1		AA	19	1A
*A:D	1	19	A1	AA1	ABC1	AA	1A
F:D	F1	F2	F9		A1	Z0	1A
[ABC]B:D	AB1	CB1	BB9		AC1	DB9	CZ0
[!ABC]B:D	ZB1	DB9	QB0		AC1	AB1	CB1
						BB9	CZ0

43.2.3 What are we trying to match

First, what do we do with a match?? Well, if a callsign matches one of the patterns a message appears in the **check window**. Therefore we make up rules that specify what a 'bad' call is, like:

1. Calls that start with 3 letters
2. Call with first letter B with prefix other than BT,BV,BY,BZ
3. French calls with a 1 or 6 that don't have 3 letter suffix
4. East German calls that don't end in A to O (East Germany does not exist anymore but is still in as a nice matching example)

Then we try to make a pattern that will match only calls fitting that rule.

Unfortunately some countries have made the job a bit harder by restricting certain types of calls to certain bands and modes. I.E. the HJ prefix is only used on CW or 40m and 80m SSB. So we need some way to specify rules for those calls. So what I do is append the band and mode information to the end of the callsign before it goes through the pattern matcher. What it looks like then is this: "BY1AA=4S" where the '=' is added at the end of the call, followed by the band number (1=160m, 2=80m, ... 6=10m) and the mode (S=SSB, C=CW, O=Other modes). Now we can make rules that apply to specific bands and not have another mechanism to remember. This also helps us by marking the end of the call with the '=' sign, so now we can sort out calls that have to have specific lengths.

This means the following combinations can be made to specify bands and modes:
=3C match a '3' (40meters) followed by "C" for CW, call would be bad on 40m CW.
=4 match just a '4' for 20m either mode, call would be bad on 20m any mode.
=:DS match any band, but only for SSB, call would be bad on SSB on any band.

Which for our rule that is valid only on CW or 40/80 SSB means that it is bad on any other band or on ssb so we could do:

=:[1456]S which means the call is bad on 160, 20, 15, or 10m SSB

Also, before a call is sent through the pattern matcher any portable part of the call is removed. This way a /QRP, /A, /MM, /CT3 etc. does not affect the checking of the basic callsign.

Now, back to some of the cases mentioned earlier and how to make up rules for them.

1. Calls that start with 3 letters

This is fairly easy, all we need is a rule that will 'match' if the first 3 characters are letters. Since the :A phrase says to match any one letter we can use that to get the rule:

:A:A:A

Notice, that since we are only worried about the first 3 characters of the call we don't have to go past that in the rule. This makes use of the property that says if the rule runs out before the callsign does the rest is assumed to match.

2. Call with first letter B with prefix other than BT,BV,BY,BZ

This is a bit harder, but at least we only have to deal with the first 2 characters of the call. First, we only want this to apply to calls that start with a 'B'. Then if the second character is not one of the group 'TVYZ' we want it to 'match'. So we get the rule:

B[!TVYZ]

This is the same as above, if we match the 'B', and then the next character is not one of the set "TVYZ" we don't care what the rest of the call might be.

3. French calls with a 1 or 6 that don't have 3 character suffix

Now this is a real test of the capability of the rules and how well you understand them. First we need calls that start with 'F', followed by a '1' or '6'. Then we need to match one or two character suffixes to reject suffixes that are too short. For this we will use one of the 'optional' matches for the second letter of the suffix to get:

F[16]:A-A=

Note how we have the ":A-A" which will match one letter, then optionally another letter. We can not use "+A" in this case because that would also match 3 letters. Then the '=' will anchor the end of the rule so that if there was a third letter in suffix it would not match the '=' and the call would pass as good. Unfortunately the French also use other prefixes like FB, FD, FE, FF that follow the same rule. But this can not be combined because of other calls that also start with F and don't necessarily have 3 letter suffixes. Calls like FR, FS, FJ, FC, FT may not fit the 3 letter rule. This means we need a second rule to finish this problem to specify the other French prefixes we want to check for 3 letter suffixes. To cover this we get the rule:

F[BDEF][16]:A-A=

Which will match French 2 letter prefixes followed by a '1' or '6' with only 1 or 2 letter suffixes.

4. East German calls that don't end in A to O

Now here is the killer. Fortunately all these calls have been replaced, but it is still a good example and will probably be very similar to some of the Russian rules for suffixes. First we want to match calls that start with 'Y', followed by a digit from 2 to 9, followed by another digit from 0 to 9, then there could be one, two, or in rare cases three letter suffix that must end with a letter in the range of 'A' to 'O'. With all this in mind we get the rules:

Y[2-9]:D[!A-O]= for single letter suffix

Y[2-9]:D:A[!A-O]= for 2 letter suffix

Y[2-9]:D:A:A[!A-O]= for rare 3 letter suffix

Again we ended up with multiple rules, in this case because if we had used a '+A' or '*A' it would have also matched the last letter that we wanted to check specifically.

Now if you look in the file CALLSIGN.PAT you will see all the rules that I have come up with. Each rule also has a line giving the explanation for it. This explanation is shown as a message in the **check window**. You will note that some of them are not hard rules, only that the call is rarely used.

Now you should all be experts at making rules for bad callsigns. When you come up with a new pattern you can test it by entering the callsign in the callsign field.

It is possible to come up with rules that you can't get to in the file. For instance a call like "HI500ABC" would always be rejected by the "CALL TOO LONG" rule near the top of the file, so if you tried to come up with a specific rule saying that HI500 calls only have 2 letter suffixes you would not get to it unless you put it before the rule for maximum callsign length.

Some of the 'Generic' rules will reject calls that may be good. The special calls using extra long numbers, like the "HI500ABC" above may very well be a legal call. But since these should be relatively few, especially during a contest, I feel it is better to have them shown in the check window and let the operator determine if they are correct than to try to come up with rules that may only be

used once.

44 Links

44.1 N1MM links

N1MM Free Contest Logger Home Page. • An overview with all the latest information on the program. • View and download Help files / Manuals (many languages) • Report bugs and request features • Testimonials • more	http://pages.cthome.net/n1mm
N1MM logger discussion group • This group discusses features, bugs, and ideas for the N1MM Free Contest Logger. ◆ Do you have questions/remarks ◆ Here you want to go. • To discuss the program you have to join first:	http://groups.yahoo.com/group/N1MMLogger http://groups.yahoo.com/group/N1MMLogger/join
Download • Program (base install) – <i>N1MM.zip</i> • Program Updates – <i>NewexeVx.x.xxx</i> • Other files • Windows Help file – <i>N1MMLoggerHelp.chm</i> • Manual in PDF format – <i>N1MMLogger.pdf</i> • Serial and parallel port support for 32 bit Operating Systems – <i>DLPORTIO.dll</i> • RTTY engine – <i>MMTTY</i>	Go to the Download page

44.2

44.3 Support file links

Country file • Country files which can be imported in the program (cty.dat or wl_cty.dat). • Don't forget to import the country file under Tools! • Look for install information on: Customizing the DXCC list	http://www.k1ea.com/cty/index.htm
Super Check Partial Database Files	http://www.k5zd.com/scp

- The calls in this database appear in the Check window after entering at least two letters of the callsign field.

44.4 Hardware links

Hardware supported by N1MM logger

K1EL • WinKey serial keyer	http://www.k1el.com
microHAM • Band decoder which works fine with N1MM logger (serial and parallel)	http://www.microham.com/

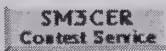
44.5 Software links

MMTTY Software Page (freeware) • The MMTTY software engine is used by this contest logging program.	http://www.qsl.net/mmhamsoft/
PSKCore.dll (freeware) • DLL by Moe Wheatley, AE4JY for developing PSK31 and PSK63 applications used by N1MM logger.	http://www.qsl.net/ae4jy/
winPSKX.dll (freeware) • PSK31 dll by Dave, WA0TTN. Not used by N1MM logger anymore but works very well.	http://www.netdave.com/wa0ttn/PSK31.asp
Master.dta Editor (freeware) • View and edit the Master Callsign Database file used in many contesting programs, import and export callsigns, auto-download announced DX operations. Great program by Alex, VE3NEA.	http://www.netvampire.com/ham/
Dimension 4 (freeware) • Time synchronization tool for resynchronizing your computer time with Internet time standards. This program is successfully used by many N1MM logger users. • Doesn't work direct under Windows XP, a fix can be found in the FAQ.	http://www.thinkman.com/dimension4
AboutTime (freeware)	http://www.arachnoid.com/abouttime/

• Time synchronization tool for resynchronizing your computer time with Internet time standards. This program is successfully used by many N1MM logger users. • Doesn't work direct under Windows XP, a fix can be found in the FAQ.	
Cool Edit (shareware) • Record, clean up, mix, master, and export to MP3 and other formats with this audio editor. Many, many features.	http://www.syntrillium.com/
Audacity (freeware) • Audacity is a free audio editor. You can record sounds, play sounds, import and export WAV, AIFF, and MP3 files, and more. Use it to edit your sounds using Cut, Copy and Paste (with unlimited Undo), mix tracks together, or apply effects to your recordings	http://audacity.sourceforge.net/
QuickMix (freeware) • QuickMix is a simple applet that allows you to store all or part of the current state of your audio mixer in a settings file, and to restore the mixer to that state whenever you want. • Just set the different settings including mute etc. before saving the setting and give the setting a name *.qmx	http://www.msaxon.com/quickmix/
Sound Mixer (freeware from PA1ARE) • Mixer is a program to set and restore the settings of the soundcard. • You can use it in two different ways... First you can use in the windows mode, where you have a visible mixer. You can store and retrieve the soundcard settings suitable for a certain application. If you use Mixer in a batch file just specify the label of the settings you want to restore.... Mixer will start (invisible) set the appropriate settings and then exits.	http://www.qsl.net/pa1are/software.html
AR Cluster User (freeware) • This program looks useful to those who want more control over the spots appearing in the logging program. It can run on your local machine, or on another machine. You connect to it via port 7300 from a logging program. • It is specifically for AR-Cluster, but I would guess it works to a lesser degree with other	http://www.bcdxc.org/ve7cc/default.htm

cluster software.

44.6 Contest links

ARRL Contest Calendar Page	http://www.arrl.org/contests/
SM3CER Contesting service	
VK4DX Contest Calendar	http://www.vk4dx.net/
WA7BNM Contest Calendar Main Page	http://www.hornucopia.com/contestcal/

45 DX Clusters

There are several types of DX clusters used during contests. Most of them have the same type of commands (SH/DX style by the original from AK1A). Below a summary of the most used DX cluster types with some sample commands how to use the DX cluster. For more information read the Help from the cluster you are using.

45.1 Overview

Cluster	AR-Cluster	CLX	DXnet	DXSpider	Wincluster	Clusse	PacketCluster(tm)
By	AB5K	DJ0ZY and DL6RAI	F5MZN	G1TLH	KH2D	OH7LZB	AK1A
Operating System	Windows 32 bits	Linux	Linux, Windows, Dos	Linux, Windows	Windows 32 bits	Dos	Dos
Command Set	SH/DX	SH/DX	SH/DX	SH/DX	SH/DX	Own	SH/DX
Version used for overview		5.04	4.3b9	1.51	2.3.8	1.0	Not found
Still supported	Yes	Yes	Yes	Yes	Yes	No	No
	\$\$\$	Freeware	Freeware	Freeware	\$\$	Freeware	\$\$
Multilingual	?	?	Yes	Yes	No	Yes	?
Website	Website	Website	Website	Website	Website	Website	No
Help file	Web	Web	Not found	Web PDF file from FRC	Not found	Not found	Not found
Help on DX spots	Web	Web	Not found	Web	Not found	Not found	Not found
Help on Filters	Web	Web Web	Not found	Web PDF file By Jim – W3BG	Not found	Not found	Not found
Command Reference	Web	Web	Not found	Web	Not found	Not found	Not found

45.2 Commands

Action	AR-Cluster	CLX	DXnet	DXSpider	Wincluster	Clusse
General command set	SH/DX	SH/DX	SH/DX	SH/DX	SH/DX	List
Show users	SH/USERS	SH/USERS	SH/USERS	SH/USERS	SH/USERS	
Show WWV	SH/WWV	SH/WWV	SH/WWV	SH/WWV	SH/WWV	
Configuration network			SHow/Conf			
Show Filters	show/filters	show/filters	SHow/Filter	show/filter		

Set Filter	set/filter [...]	set/filter 5				
Reset Specific Filter		set/nofilter 1		clear/spots 1		
Reset All Filters	set/nofilter	set/nofilter	SET/NOFilter	clear/spots all		
Set number of lines to 0					SET/PAGE 0	
Show DX Spot Origination Filters		SHOW/DXDEDX				
Enable DX Spot Origination Filter		SET/DXDEDX				
Disable DX Spot Origination Filter		SET/NODXDEDX				
Show other languages						
Set other language					-	
Search the help database				apropos <string>		

45.2.1 SH/DX command set

SET/FILTER
 SHow/Filter
 SET/NOFilter
 SET/DX_announcements
 SET/NODx_announcements
 SET/Announcements
 SET/NOAnnouncements

45.3 Filter and other examples/features

Setting band/mode type filters are not recommended as they will often block split frequency operations on the low bands.

Filter examples AR-Cluster and DX-spider by the Yankee Clipper Contest Club (YCCC).

45.3.1 AR-cluster

For full details see: <http://www.ab5k.net/ArcDocs/UserManual/ArcFilters.htm>

You only want stateside generated spots and announces? Use: **set/filter k/pass**

set/filter k,ve/pass – You will only see DX spots from spotters in the United States (K) and Canada (VE).

set/filter dxbm/reject vhf,uhf – VHF and UHF spots will be suppressed.

Remove all filters with **set/nofilter**
 Examine your settings with **show/filters**

45.3.2 CLX

For full details see: <http://clx.muc.de/user/english/html/userman.html>

SET/FILTER <nr1,nr2,...,nrX>

This command lets you set reject filters as defined by your sysop. You first should look up which filters are defined at your CLX node. This is the default list:

Filter Meaning

-
- 1 VHF 144.000 MHz and up
- 2 HF 30.000 MHz and down
- 3 TOP 1.800-2.000 MHz
- 4 all the CW band segments
- 5 all the SSB band segments
- 6 all the RTTY band segments
- 7 all the WARC bands
-

Your sysop may or may not have defined further filters. You can find out by using the SHOW/FILTERS command.

After you have decided which filters you would like to switch in, you use the command as follows:

SET/FILTER 4,6

This turns on the CW and RTTY filters, so will leave you only with SSB spots. To further narrow the filter settings, you can add more filters:

SET/FILTER 1,3

The setting is now 1,3,4 and 6 which eliminates all spots except SSB spots on the HF bands from 80 to 10 meters, including the WARC bands.

SET/DXDEDX and SET/NODXDEDX

This command is used to turn off so-called internet spots. DX spots originating from specific WAZ zones are not forwarded to you when you have issued a SET/NODXDEDX command. This flag is saved in your user record so you will only have to specify it once to turn these (for you) annoying messages off. The default is to send all DX spots. For example, your sysop could have defined zones 03, 04, 05 and 25 as DX zones. If you then turn on the NO-DX-de-DX filter, you will never again receive any spots from these areas although other users probably will.

To look up, which zones were being defined as DX zones, use the command SHOW/DXDEDX.

When you have previously disabled DX spots from other continents with SET/NODXDEDX, you can re-enable them with SET/DXDEDX.

SET/DX_ANNOUNCE and SET/NODX_ANNOUNCE

This command turns the reception of DX spots on or off. This could, for example be used if you were reading a lengthy message and did not want DX spots in between the lines. This command is permanent, it will enable or disable the sending of DX spots. To enable the sending of DX-spots use SET/DX_ANNOUNCE

SET/LOGIN_ANNOUNCE

Set to see user logins and logouts locally. For each login or logout, a message is sent to you from the system. On a busy node this will generate a lot of traffic.

Login at 1929Z: DL6RAI

Logout at 1930Z: DK2OY.

45.3.3 DXSpider

For full details see: <http://www.dxcluster.org/main/usermanual.html> or download it as PDF file (from FRC) at: <http://www.gofrc.org/pdf/dxspider.pdf>

A great PDF file on User Configurable Spot Filters in DXSpider by Jim Samuals – N3BG can be found at : <http://www.gofrc.org/pdf/Filter Primer.pdf>

SET/USSTATE is a feature where the US STATE is automatically added before or behind the time field. The information is taken from the FCC database.

The basic format for a spot filter is:

accept/spots <pattern>

reject/spots <pattern>

As you can see, there are fundamentally two broad classes of filter... accept & reject. A different way of looking at them is:

accept = bandpass filter, as in, "Pass these spots to me."

reject = bandreject filters, as in, "I don't want to see spots like this."

The <pattern> has many, many different combinations. For now, I'm going to address just two classes... "by" and "call".

"By" means that the spot is "by someone" as in a spot "by k1xx" or "by a VE" or "by someone in Maine"

The exact syntax is:

by_zone – spotter in the CQ Zones, 1-40

by_dxcc – spotter is a W or VE or F or G

by_state – spotter is in ME, CT, RI, NH

Remember, spots "by" means callsign of the station doing the spotting, the spotter.

"Call" on the other hand refers to the call, zone, state of station being spotted, the spottee. The syntax here is:

call_zone – the spottee's zone

call_dxcc – the spottee's country

call_state – the spottee's state

Now, on to some simple examples.

accept/spots by_dxcc w,ve <--- spots only by W & VE stations

accept/spots by_zone 5 <--- spots only by stations in Zone 5

accept/spots by_state me <--- spots only by stations in Maine...slow weekend

reject/spots call_dxcc G <--- I don't want to see G stations spotted

reject/spots call_zone 14 <--- No spots of stations in Zone 14

reject/spots call_state md <--- Please, no more spots of Maryland stations

If you want to get rid of a filter, use

clear/spots all

Spot filters remain on a DXSpider node until you clear them out. No need to re-enter the same filter each time you log in.

Just a couple words about frequency. You can combine frequency on the same line as an accept/reject filter. For example:

accept/spots by_dxcc w,ve and on 10m <--- only 10 meter spots by W & VEs

reject/spots call_zone 25 and on 160m <--- I don't want more spots of JAs on 160 meters.

45.4 Links

General cluster information from The UK DX Cluster	http://www.armscroft.demon.co.uk/UKDXC/home.html
DX PacketCluster WebNet	http://www.cestro.com/pcluster/
Webclusters and other usefull information	http://hamgallery.com/clusters/
OH2AQ WebCluster (DX-Summit)	http://oh2aq.kolumbus.com/dxs/

46 Customizing the DXCC list

46.1 Updating the country file – CTY.DAT

The program uses a country file from which it takes all the information like the country name, CQ zone, ITU zone, continent, latitude and longitude etc. This file mostly called CTY.DAT is not directly used by the program but has to be read into the currently used database. The program will retrieve all information from the database (not from the cty.dat file). When importing the country file the program will ask for the file to import. this way several cty.dat files could be used for different contests.

When entering a callsign the left pane of the Entry Window will give Prefix, country name, CQ zone and continent. The Info Window will also give this information and additional calculated information like beam heading, distance, sunset and sunrise.

A number of high profile stations who are not where their call area, have this built into the CTY file. The file will populate the correct zone, even though it looks out of place. An example is K2KW who we would expect in zone 5 but lives in California and is entered in the CTY.DAT file living in zone 3.

46.1.1 How to update the country file.

- Download the update (link can be found on [Download](#) page as 'Update the Country file (cty.dat or wl_cty.dat)')
- The file is called cty.zip. This single file contains files for CT, NA, TR and WriteLog. The files can also be downloaded separately from this page.
- Use the *CT9 version* (cty.dat) or the *Writelog version* (wl_cty.dat) which is preferred.
- Load the file by selecting it using *Tools/Import country list from downloaded file*.

46.1.2 CTY.DAT file format

The format from CTY.DAT is as follows:

Column	Length	Description
1	26	Country name terminated by a colon character.
27	5	CQ zone terminated by a colon character.
32	5	ITU zone terminated by a colon character.
37	5	2-letter continent abbreviation terminated by a colon character.
42	9	Latitude in degrees, + for North terminated by a colon character.
51	9	Longitude in degrees, + for West terminated by a colon character.
61	9	Local time offset from GMT terminated by a colon character.
69	6	Primary DXCC Prefix terminated by a colon character.
next line(s)		

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

1. The first part of the experiment involves the preparation of a solution of sodium acetate. This is done by weighing a precise amount of sodium acetate trihydrate and dissolving it in a known volume of water in a volumetric flask. The solution is then used for the titration of acetic acid.

2. The second part of the experiment involves the titration of acetic acid with sodium hydroxide. The acetic acid is dissolved in water, and the solution is titrated with a standard solution of sodium hydroxide. The endpoint is reached when the solution turns pink, indicating the formation of acetate ions.

3. The third part of the experiment involves the determination of the concentration of the acetic acid solution. This is done by using the volume of sodium hydroxide solution required to reach the endpoint and the known concentration of the sodium hydroxide solution.

4. The fourth part of the experiment involves the calculation of the molar mass of acetic acid. This is done by using the concentration of the acetic acid solution and the volume of the solution used in the titration.

5. The fifth part of the experiment involves the calculation of the percent error. This is done by comparing the calculated molar mass of acetic acid with the known molar mass of acetic acid.

6. The sixth part of the experiment involves the calculation of the standard deviation. This is done by using the formula for standard deviation, which is the square root of the average of the squared deviations from the mean.

7. The seventh part of the experiment involves the calculation of the confidence interval. This is done by using the formula for confidence interval, which is the mean plus or minus a certain number of standard deviations.

8. The eighth part of the experiment involves the calculation of the t-value. This is done by using the formula for t-value, which is the difference between the sample mean and the population mean, divided by the standard error of the mean.

9. The ninth part of the experiment involves the calculation of the p-value. This is done by using the formula for p-value, which is the probability of obtaining a result as extreme as the one observed, assuming that the null hypothesis is true.

10. The tenth part of the experiment involves the calculation of the final result. This is done by combining all the results from the previous steps to determine the final concentration of the acetic acid solution.

		List of prefixes assigned to that country, each one separated by a comma and terminated by a semicolon.
--	--	---



Note: The fields are aligned in columns and spaced out for readability only. It is the ":" at the end of each field that acts as a delimiter for that field.

Alias DXCC prefixes (including the primary one) follow on consecutive lines, separated by ",". If there is more than one line, subsequent lines begin with the ""continuation character. A ";" terminates the last prefix in the list.

If the country spans multiple zones, then the prefix may be followed by a CQWW zone number in parenthesis, and it may also be followed by an ITU zone number in square brackets, or both, but the CQ zone number in parenthesis must precede the ITU zone number in square brackets.

The following special characters can be applied to an alias prefix:

(#) Override CQ zone where # is the zone number

[#] Override ITU zone where # is the zone number

46.1.3 Writelog country file

N1MM logger can also use the country file WL_CTY.DAT from WriteLog which has extra CQWW zone information for several countries including: Canada, Australia, and China. Because each of these countries is allocated a multitude of prefixes, but the CQWW zone is determined by the call area regardless of prefix, a very large number of entries would be necessary to spell out all the combinations. Instead, WL_CTY.DAT contains special "macro" commands that indicate how the CQWW zones are determined for that country. See the example below. See the [update instructions](#).

46.1.4 Other info

- You can override the continent, zone etc. on a prefix-by-prefix basis.
- Primary prefixes preceded by an * are only valid for the CQWW and WAE contests. The logging program will ignore these lines otherwise. When updating the country file please don't remove the *.
- The logging program doesn't handle prefixes such as FR5ZQ/J correctly. Listing FR/J as a prefix for Juan de Nova in the country file doesn't work unless a station signs "FR/J" as his callsign. If you work one of these islands, you'll have to add the callsign of the worked station to the country file manually before it is counted as the right country.
- When updating the CTY.DAT file use a text editor, not a word processor. Notepad is fine, watch out for Wordpad etc., always save as a text file!
- After updating the CTY.DAT file it has to be reloaded. *Reload the file via Tools/Reload CTY.DAT.*
- After a Reload the prefixes are written into the database which you are using. When changing to another database you have to do a reload again to be sure that you use the most recent country file (or the one you want).
- When a database is copied, also the prefixes in it will be copied. So if the country file was updated in the original file after a copy you don't have to reload CTY.DAT.



Note on KG4 stations: When a KG4 callsign is a 2x2 callsign it is assumed to be Guantanamo otherwise it is K (2x1 or 2x3). When the exact callsign appears in the loaded cty.dat the associated country will be used (K or KG4 are then not automatically assumed).

46.1.5 Examples

Netherlands: an easy example with nothing special. The program will assign all calls starting with PA, PB, PC, etc. to the country Netherlands in CQ zone 14, ITU zone 27 and EU as continent. PA will be the prefix shown in the multiplier window.

Netherlands: 14: 27: EU: 52.40: -4.90: -1.0: PA:
PA,PB,PC,PD,PE,PF,PG,PH,PI;

Greenland: Normally only stations with OX are counted as Greenland. The callsign XP1AB has been added which normally belongs to Denmark (OZ). XP1AB will be valid as Greenland with standard Greenland parameters i.e. zones, continent etc.

Greenland: 40: 05: NA: 62.50: 45.00: 3.0: OX:
OX,XP1AB;

*African Italy: This is an example where a * is added before the primary prefix which means that the country only counts in CQ-sponsored contests.*

African Italy: 33: 37: AF: 35.40: -12.50: -1.0: *IG9:
IG9,IH9,IQ9L,IZ9;

Other nice examples with zone changes on calls are VE and UA9, see the CTY.DAT file in the program directory.

Writelog macro example.

The macro starts with # and ends with the next ; It means that for all the prefixes in China the zones are determined by the call area and first letter of the suffix.

China: 24: 44: AS: 40.00: -116.40: -8.0: BY:
BY: BY3G(23),BY3H(23),BY3I(23),BY3J(23),BY3K(23),BY3L(23),
BY9A(23),BY9B(23),BY9C(23),BY9D(23),BY9E(23),BY9F(23),BY9G(23),
BY9H(23),BY9I(23),BY9J(23),BY9K(23),BY9L(23),BY9T(23),BY9U(23),
BY9V(23),BY9W(23),BY9X(23),BY9Y(23),BY9Z(23),BY0(23);
3H,3I,3J,3K,3L,3M,3N,3O,3P,3Q,3R,3S,3T,3U,BG,BT,BW,BY,BZ,XS;

47 Technical Information

47.1 General Information

N1MM logger is a contest program written in Microsoft Visual Basic which uses a Microsoft Access 2000 database for storing information. Writing and retrieving data to and from the database is done with SQL (Structured Query Language).

For running the program no more programs or files are necessary than supplied in the installation package and the program update.

Do you need all the information given below to use the program? **NO**

We recommend not to change any data in the database or any other files unless you are very sure what you are doing. It is possible to change the behavior of the program and get erroneous results. If you have changed the contents of the database and the program behaves strange go back to the original (unaltered) version of the database.

No support will be given to users who change the database structure or contents. The same goes for changing registry settings and files used by the program.

You are on your own!



Note: Normally there is no need to access the database or registry settings. Don't make changes if you are not very sure what you are doing. **Second and last warning!**

When you are interested in the structure of the database you need to have installed Microsoft Access 2000 or the Access 2000 viewer or more recent versions.



Note: When changing data always make a backup from the database (and preferably the whole N1MM logger directory).

47.2 Why is this information given?

Accessing information direct in the database sometimes gives possibilities not directly supported by the program.

Examples:

- You want to have reports which are not (yet) standard in the program. With some knowledge of SQL and Access it is possible to generate your own.
- Changing information in the database can sometimes be done much easier this way than within the N1MM logger program
Example: The time is off by an hour for the whole contest.



Note: After changing qso information always do a rescore!
N.B. Multiplier information and qso points will be updated after a rescore so these changes made direct in the database will be lost. Change multiplier and qso points in the (Cabrillo) output files.

N.B. It is not possible to add a contest to the program this way.

Contests and it's rules etc. are in the main program file (N1MM logger.exe) and are not stored in the

database or any other files!

47.3 Directory structure

The default directory where the program is installed is in the 'Program Files' directory on the first hard disk (C:).

Below this directory two directories are (or can be) made to support Digital Voice Keying (DVK).

C:\Program Files\N1MM Logger	Program file directory
C:\Program Files\N1MM Logger\Letters	Directory to store all wav files to 'speak' numbers and letters. Example files can be downloaded from the N1MM web site and select in the left menu: Other Files
C:\Program Files\N1MM Logger\Wav	Directory to store all wav files used in the SSB function keys. You have to make these yourself.

47.4 Where is the program information stored?

There are several places where program information is stored.

- The Access database file
 - ◆ After a first install called HAM.MDB
 - ◆ You can rename it or add your own databases from within the program.
 - ◆ General contest information
 - ◇ Contests information
 - ◇ Station information
 - ◇ QSO's made in the contests
 - ◇ Packet spots
 - ◇ (Function) key information
 - ◇ Country information
 - ◇ Etc.
- N1MM logger.ini file
 - ◆ Program settings from the configuration screens
 - ◆ Window settings (screen setup)
- Configuration files
 - ◆ Setting up your external TNC
 - ◆ MMTTY specific files
- Other files
 - ◆ Wav files for CQ etc.
 - ◆ Exported Cabrillo, ADIF, generic log and summery sheet files
 - ◆ section files used for specific contests

47.5 The Access database

A database has tables with in it the data.

<i>Table</i>	<i>Contents</i>
--------------	-----------------

Antennas	Antenna information (Config Configure Ports, Telnet Address, Others Tab: Antennas)
BandModeFrequency	Radio (vfo) number, frequency and mode information used when changing band.
CallHist	Table used for 'Call History Lookup' function.
Contest	All the available contests in the program
ContestInstance	The contests which are shown in the Previous contest dialog
CTYDAT	Country information like 'master' prefix, name, CQ and IARU zone, latitude, longitude etc.
DXLOG	QSO's from all the contests in the table ContestInstance
Lookup	(Function) keys, States, Provinces etc
PacketSpots	Packet spots for all the bands. Spots from this table are shown on the bandmaps
PacketSpotsTest	Test packet spots (for program development)
Prefixes	Prefixes recognized by the program with default country prefix
SectionsWorked	Information to show the section multipliers in the Multipliers by Band window
Station	Station information i.e. call, name, address etc.
ValidCalls	Not used anymore (empty)

47.6 The "N1MM logger.ini" file

Everything in the "N1MM logger.ini" file should be settable through the program's User Interface. Defaults are shown in the file "Default Settings.txt" . An item will not appear in the "N1MM logger.ini" file if its value is the same as the default. Both files can be found in the program directory.

The "N1MM logger.ini" file is organized by function (top of file) and windows (bottom of file). The function section's attributes can be deleted, and defaults will be used by the program. The window section contains position and other window information. Generally these values should not be changed unless a window disappears.

Try to keep the file in this order, it will make things easier to find during discussions on the user group.

To comment out a value in the file precede it with a semicolon (;)

47.6.1 Functions section

Possible functions are:

[Com1]	[Com2]	[Com3]	[Com4]	[Com5]	[Com6]	[Com7]
[Com8]	[Lpt1]	[Lpt2]	[Lpt3]	[MultiplierWindow]	[SO2R/V]	[Files]
[Digital1]	[Digital2]	[MMTTY]	[Function Keys]	[Other]	[Winkey]	[Mode Control]

[Antennas]	[SO2R/V Setup]	[Available]	[Packet]	[Configurer]	[ConfigurerDialog]	[CW Window]
[Digital Interface]	[Digital Interface Setup]	[DigitalIO2]	[EditContact]	[EditLookupTable]		

Examples

[Packet]

Packet Tab=1 – *Telnet window is selected, if removed the Packet tab is selected.*

[Configurer]

Database Name=C:\Program Files\N1MM Logger\PI4GN-Maart-2004.mdb *Selected database*

Contest Type=VHFREG1 *Selected contest in the selected database*

Contest NR=1 *Selected contest number in the selected database*

Recent Contest 1=VHFREG1:6-3-2004:C:\Program Files\N1MM Logger\PI4GN-Maart-2004.mdb

Most recent opened contest

47.6.2 Window Section

Possible windows are:

[EntryWindow]	[EntryWindow2]	[GraphicalBandMap 1]	[GraphicalBandMap 2]
[InfoWindow]	[Log]	[LogTypeSelectionDialog]	[MultsByBand]
[PacketWindow]	[PSKEngine]	[ScoreSummary]	[StationDialog]
[SuperCheckPartial]	[AvailableMultsAndQs]	[BandMap]	

Examples

[EntryWindow]

Top=3825

Left=2985

Height=3330

Width=5370

[PacketWindow]

WindowState=0 *Window is open (default) or closed (0), the Entry window can not be closed*

Top=9000

Left=3270

Height=2550

Width=12105

Telnet Port=K1TTT.NET *The selected telnet cluster from the list. Specific for this section.*

[BandMap]

CW Wide – 1=*RMF400CW Narrow – 1=*RMF250 *The selected telnet cluster from the list. Specific for this section.*

[InfoWindow]

WWVMessagesVisible=False *WWV messages are not shown in the Info window*

47.7 Configuration files

After installation the files below are stored in the N1MM logger program directory.

47.7.1 Program files

Never delete these (program) files!

- arrow.bmp – arrow icon used in the bandmaps (non active bandmap)
- ClearRegistry.bat – used to clear the contents of the registry used by the program. After using this program you have to enter all the configuration information again and set up all the windows.
- cty.dat – the default country file name used when the menu item 'Tools /Import country list from downloaded file' is selected.
- CW IF.exe – this is the Active X component which generates the CW
- cyanarrow.bmp – arrow icon used in the bandmaps (active bandmap)
- dirswap.BAT – rename wav file directory (example)
- empty.wav – file used to stop sending a wav file
- led_Red.bmp – icon used when a message is shown which needs attention
- master.dta – file used by the Check window with calls from many contesters
- N1MMLoggerHelp.chm – windows help file (shown when pressing Alt-H)
- N1MM Logger.exe – the N1MM logger contest program
- N1MM logger.ini configuration file for functions and windows. Be careful when editing.
- N1MMlogger.pdf – the manual which is shown when selecting 'Help / Manual'
- reddot.gif – icon used when a warning message is shown in the Entry window pane
- *.sec – text files used for different contest (example: SAC.sec, REF.sec etc)
- ST6UNST.LOG – file used by Windows when removing this program from your hard disk
- Suncalcs.dll – dll used by the program
- Update Log.wri – overview from the last program changes and updates. (obsolete, can be deleted from the directory)
- Upgrade.bat – file to register CW IF.exe to Windows (normally automatically done by the program)
- *.init – files used during installing which can be deleted. Nice to have a clean ham.mdb at your disposal (ham.mdb.init).

47.7.2 Database files

- ham.mdb – default database file (don't delete)
- new.mdb – default database file used when a new database is created by the user (don't delete)
- *.MDB – database files made when selecting 'File / New Database'.
Deleting this file means losing all the contest qso's in it. It's good practice to make a new file every (major) contest and name it after the contest. Example: PACC2002.MDB

Files created on your command

- N1MMSettings.txt – Default name for Windows settings created when selecting 'File / Export / Export Windows settings to File'
- N1MMWindows.txt – Default name for Program settings created when selecting 'File / Export / Export Program settings to File'
- <YOURCALL>.ADI – ADIF file made by the program when selecting 'File / Export / Export ADIF to file...'

- <YOURCALL>.LOG – Cabrillo file made by the program when selecting 'File / Export / Export Cabrillo to file...'
- <YOURCALL>.SUM – Summery Sheet made by the program when selecting 'File / Export / Print Score Summery to File'
- <YOURCALL>.TXT – Log file made by the program when selecting 'File / Export / Export to File (Generic)...'
- *.MC – Exported Function key files.
- *.TXT – Exported other files (example: Packet/Telnet buttons)

47.7.3 RTTY files

MMTTY files are not in the program installation package and should be downloaded separately when needed.

- MMTTY.exe – the MMTTY program
- MMTTY.ini – MMTTY configuration file
- MMTTY.* – other files used by the MMTTY program
- XMMT.ocx – needed file for MMTTY.exe
- Settings.txt – example file for the AEA PK-232 external controller
- UserPara.ini – MMTTY program settings

47.7.4 PSKCore files

Only 2 digital dll files are required in the logger directory

- PSKCore.dll (dated 6/5/20003)
- XMMT.ocx
- PSK63.dll (obsolete, can be deleted from the directory)
- WINPSKX.dll (obsolete, can be deleted from the directory)
- PSK.pal – color setting file for the WINPSK dll (obsolete, can be deleted from the directory)
- WINPSKX.ocx – WINPSK support file (obsolete, can be deleted from the directory)

47.8 Other info

- Recording is done at 11025 Hz, 8 bit, mono.
 - ◆ This means about 1 GB per 24 hours.

48 Off Topic, but nice to know

This chapter gives general information about contesting coming from discussions on the N1MM logger reflector.

Should this be placed in a help/manual for a contest program? We don't know but as the title says: Off topic, but nice to know.

We thank the authors for their approval so we could add this to the help/manual.

48.1 Working dupes or not

In paper log days you used to get penalized for too many dupes that weren't marked as such in the log. I don't know of any contest that has ever penalized you for working too many dupes as long as you marked them in your log and didn't try to claim points for them.

Its kind of ironic that the Cabrillo log format has no way to mark dupes, the sponsor's log processing software automatically rescores all the logs so you don't have to worry about even recognizing dupes or worrying about not claiming points for them.

On your specific question. You log by2a but 6y2a properly logs on5zo... 6y2a would get credit because the log checking software would properly match up the one-off call by2a with their log entry of on5zo. If there really is a by2a and they send in a log you would lose credit for a confirmed not-in-log. If there is no such callsign as by2a issued you would lose credit and penalty and lose the multiplier (assuming you didn't work any other by) as a bad call. If there is a by2a but they didn't send in a log you might get to keep the credit if the log checking software and manual checkers don't recognize the busted call.

Lets take it one step further. Say you really screwed up and logged by2et so the log checking software can't figure out that it was really 6y2a that you worked... now 6y2a loses qso credit and penalties for being not in the on5zo log. You may or may not lose credit as above based on the by2et log and callsign status.... now, later on you hear 6y2a and call them again. If they recognize you are a dupe and come back 'qso b4' and refuse to work you, THEY LOSE! They will never get credit for on5zo and will lose the penalty points. If instead they ignore the dupe and work you again the original not-in-log doesn't matter as they are now in your log and everyone gets credit... so NOT logging the dupe is bad.

The same holds for other combinations of them busting your call, or both of you busting each other, etc. It is always better to just log the dupe and move on. There is actually less of a chance you will get penalized if you work the dupe than if you don't.

David Robbins, K1TTT
e-mail: <mailto:k1ttt@arrl.net>
web: <http://www.k1ttt.net>

48.2 Types of operating

Running. In this mode you normally only want to only see new multipliers so the ct spot window serves well. You can set the filters to only see new multipliers so you can easily go grab them and get right back to your run frequency.

The traditional s&p mode. In this mode you dial up the band checking each signal you hear. In this mode the bandmaps work well as they can help you quickly identify each station you hear and

determine their status as a new qso or mult or dupe.

The 'new' packet assisted s&p mode. In this mode you start at one end of the band and quickly go from spot to spot and work all the new stuff on a band. With today's high spotting rates you often find that almost every station you would hear doing the traditional s&p is already in the band map so for an operator in a hurry to work out a band and move on this could be very useful. Also for an operator working a 2nd vfo while still running, or running so2r to tune one band while cq'ing on another one this could be useful as you typically have less time to spend figuring out who someone is and would rather have a screen full of new stuff than a screen full of dupes to tune through.

David Robbins, K1TTT

48.3 A qso speedup tip (how is your typing speed?)

Being raised as a contester using CT, I was taught this trick (drill exercises on PED CT trainer, tnx to my contesting elmer ON5YR)

By pressing "Insert" to send RST (CT uses "insert" to send call+RST).

I type the prefix, copy suffix in head, start sending RST while typing the suffix.

Saves a lot of time and the calling station does not have to wait that extra split second, as soon as his TRX goes from TX to RX, he hears me coming back to him already.

So although I use ESM a lot, whenever I use this trick I still press "Insert", works FB!

Try it, it works FB in combination with ESM.

73 es CU in contest!

Franki ON5ZO

NB. N1MM logger can be set up to send call+rst when pressing 'Insert'.

48.4 GMT is GMT, or not?

Not quite. Some of Bill Gates' boys didn't know the difference between Greenwich Mean Time and the local time in Greenwich, England. In some versions of Windows, one of the choices for time zone is labelled (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London, but unfortunately, despite what the time zone list says this setting is NOT repeat NOT Greenwich Mean Time; it's local time in Greenwich (and Dublin, Edinburgh, Lisbon and London), which in the summer is daylight savings time, i.e. GMT + 1:00 .

There's an often published workaround. If you absolutely gotta put your computer on GMT because you're tired of resetting some old DOS software that doesn't know any better, you can set the computer for (GMT) Casablanca, Monrovia. Those places never go on daylight savings time, so their local time really is the same as GMT all year round, not like Greenwich.

But you know what? If you're using Windows software like N1MM Logger, it's a lot easier to set your computer to your own local time zone and let the operating system take care of all that time zone and daylight savings time stuff automagically.

73, Rich VE3IAY

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49 Additional Software

49.1 I8NHJ web interface

I8NHJ has created a very nice web Interface to the N1MM Logger Database. This interface gives nice statistics about the contest, worked stations and much all in real time when needed. See the file *WebInterface_Howto.txt* in the zip file for installation instructions. Tested on Windows NT/W2K/XP. You'll need MSOffice and MSAccess 2000. MS Office is not needed to run N1MM logger only needed for the web interface!

From the HowTo.txt file and additional info from Max, I8NHJ

This program was designed to allow an easy, powerful and versatile interface to the log generated by the N1MM Logger during a contest or dxpedition. It is distributed AS IS, under the GNU licence terms. It can be freely used and distributed but please leave in place the references to me (I8NHJ) and to the programmer (AGO) who helped in developing the code. Version 1.0, November 2002

The WebInterface is written using in-deep ASP techniques and it needs a full-asp support. This means that some investigation should be made to find a good ASP support for other platforms than Microsoft. Here we strongly use Linux but so far we still haven't find any working support for ASP and, moreover, this kind of solution could became too much complex for the average user.

To get the full functionality from the tool, the Microsoft Office package must be installed on the Server side. MsAccess is not really needed but some graphical features are performed by components from Excell and Word.

To generate the graphics you need MS Office on the server side. If you haven't it, the WebInterface runs anyway but you will not get charts. NB.

Below an explanation from Franki, ON5ZO

Max I8NHJ has made an interface to go with the N1MMLogger software and it's database (*.mdb files). You can see it in full action when clicking on this link:
<http://193.207.106.231/s05x/log/default.asp>. This is a real time example with the recent expedition log from SO5X. Take a look and see what it does. If you want this at home for your own log just read on..

Max kindly offered this tool to us, the N1MM Logger users. You can download the program from the [N1MM logger website](#), select in the left menu: Other files. The file name is 'webinterface1-x.zip'. This is not a program that can run on its own. In fact, it is some kind of website/webpage (without getting into details). This requires that you run a webserver on your own Windows PC at home. There are several possibilities:

- a) you know all about servers and ASP, and have an ASP capable server running. You're on your own, you're smarter than I am...
- b) you are running Windows 2000 / NT / XP Pro > there's this thing called IIS that you need to install by inserting the CD, and run Windows Setup > Add components (The names may vary according to what Windows version you are using).
- c) Win XP Home: too bad, IIS does not come with the 'light' version, so either you * mess with XP Home, some did with success, others like me without any luck go to:

The first part of the course will focus on the foundations of philosophy, including the history of philosophy and the major philosophical traditions. We will explore the ideas of ancient Greek philosophers such as Plato and Aristotle, and the work of medieval and modern philosophers such as Descartes, Kant, and Hegel.

THE FOUNDATIONS OF PHILOSOPHY

In this section, we will examine the basic concepts and methods of philosophy. We will discuss the nature of reality, the limits of human knowledge, and the role of reason in philosophy. We will also explore the relationship between philosophy and other disciplines such as science, literature, and art.

The second part of the course will focus on the philosophy of language and the philosophy of mind. We will explore the relationship between language and thought, and the nature of consciousness and the self. We will also discuss the philosophy of action and the philosophy of law.

THE PHILOSOPHY OF LANGUAGE AND THE PHILOSOPHY OF MIND

In this section, we will examine the philosophy of language and the philosophy of mind. We will explore the relationship between language and thought, and the nature of consciousness and the self. We will also discuss the philosophy of action and the philosophy of law.

The third part of the course will focus on the philosophy of science and the philosophy of ethics. We will explore the nature of scientific knowledge and the relationship between science and philosophy. We will also discuss the philosophy of ethics and the role of moral reasoning in philosophy.

THE PHILOSOPHY OF SCIENCE AND THE PHILOSOPHY OF ETHICS

In this section, we will examine the philosophy of science and the philosophy of ethics. We will explore the nature of scientific knowledge and the relationship between science and philosophy. We will also discuss the philosophy of ethics and the role of moral reasoning in philosophy.

The fourth part of the course will focus on the philosophy of religion and the philosophy of politics. We will explore the nature of religious belief and the relationship between religion and philosophy. We will also discuss the philosophy of politics and the role of political philosophy in society.

THE PHILOSOPHY OF RELIGION AND THE PHILOSOPHY OF POLITICS

In this section, we will examine the philosophy of religion and the philosophy of politics. We will explore the nature of religious belief and the relationship between religion and philosophy. We will also discuss the philosophy of politics and the role of political philosophy in society.

<http://www.15seconds.com/issue/020118.htm> * install a FREE non-Microsoft server and add ASP support. (See information below from Dave, G3VGR)

d) You run Windows 98 (and maybe this is good for Windows 95 too, did not test this): go to: <http://coveryourasp.com/PWS.asp>. Follow steps 1 to 7 (included)

When you finished option A or B or C or D successfully, and the server (IIS or PWS) is up and running, follow Max his guidelines in the ZIP-file.

73' Franki

Below some additional information from Dave, G3VGR

I've just successfully implemented the I8NHJ interface, using the freeware Abyss Web Server from <http://www.aprelum.com/>.

ASP support needs to be added using the freeware ActiveHTML software from seliSoft.

<http://www.seliSoft.com/en/ahtml/index.html>.

The Aprelium website gives a blow-by-blow account on how to add this support

<http://www.aprelum.com/abyssws/asp.html>.

I only started using Logger today, so have only used a very small test log to verify all this.

73, Dave

Below some additional information from Uffe, PA5DD

I recently re-installed my whole system to Windows 2000 (same goes for XP etc.). It all works fine until I want to use the I8NHJ Web interface when the Logger has the same .mdb database file open. Then access is refused. Reason is that the Logger opens the database file "exclusively". This is a question of access rights. After installation of the Web interface, Internet user access rights has to be awarded to the directory where the Web interface is, aswell as the Logger directory. To see how, use the link: <http://www.aspemporium.com/aspemporium/tutorials/permdenied.asp>

The Web server should have default.asp in its Default Document list. Alternatively you could adress the page directly: <http://localhost/logger/default.asp>

73 Uffe PA5DD

Personal Web server

"If you have Windows 95 installed on your computer, you can install the Microsoft Personal Web Server from the Windows NT 4.0 Option Pack. You can download the Option Pack from the Microsoft Web site."

Microsoft Personal Web Server can also be found in the "Add-on\pws" directory on the Win98SE install CD (at least on this Win98SE upgrade CD, US version).

Below some additional PWS information from Frans, PA5CA

I installed the PWS software for win98se, please note to install (over write) one of the dll files before executing the install.

It took me some time before I got the ASP statistics to work, now I'm quit hapy. I used the following links....

[http://support.microsoft.com:80/support/kb/articles/Q246/0/81.ASP &NoWebContent=1](http://support.microsoft.com:80/support/kb/articles/Q246/0/81.ASP&NoWebContent=1)

<http://support.microsoft.com/default.aspx?scid=fh;NL;w98>

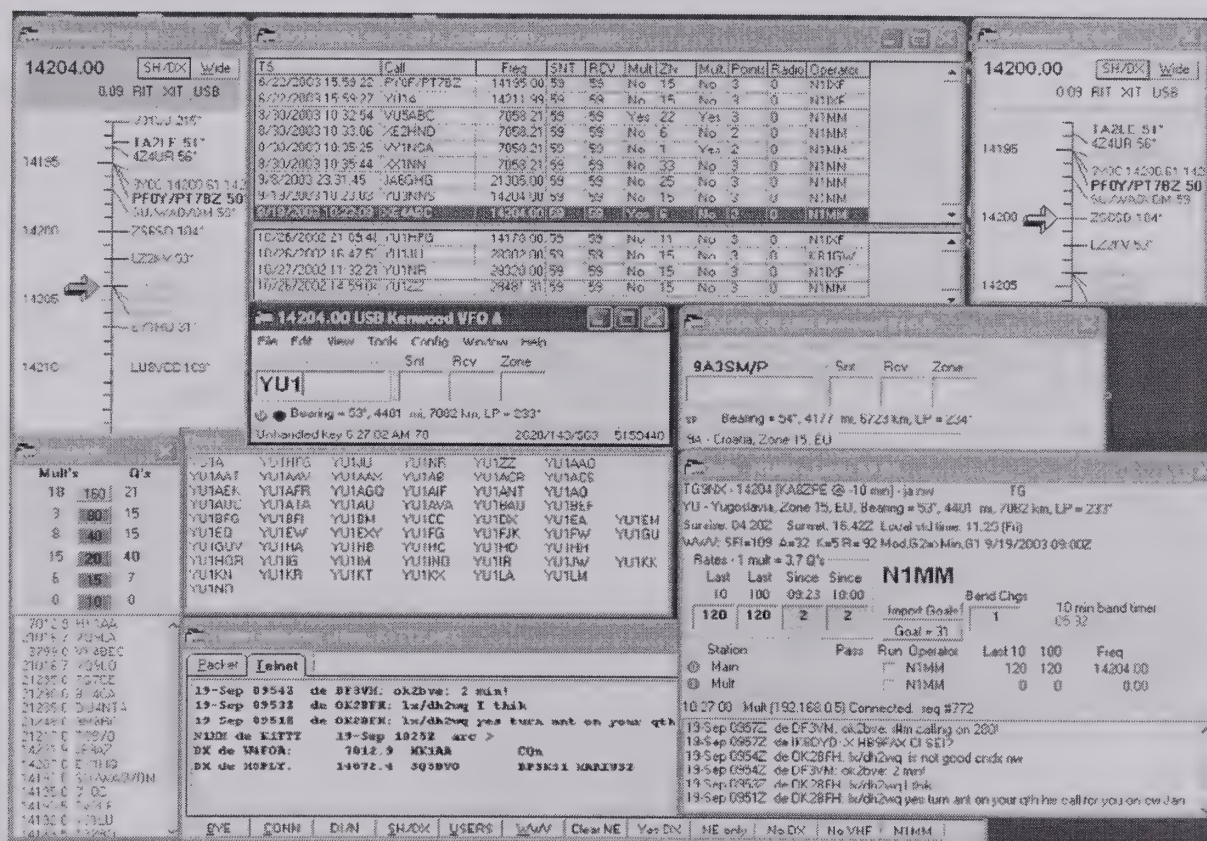
73 Frans PA5CA

50 Example Screen Layouts

Below are shown some possible screen layouts which can be a little help when setting up the windows. These examples are for 1024 by 768 pixels (17 and bigger) screens and one for 800 by 600 pixels (14/15 inch screen). When using 800 by 600 pixels mostly users seem not to show the Packet/Telnet window and one of the bandmap windows. Setting up the windows with a lower resolution is hardly possible.

After starting the program you have to setup up all the windows in such a way that the ones used are on a logical place on the screen. Like the left radio bandmap on the left side of the screen or vfo A left and vfo B right etc.

These screen layouts are not in the Windows Help file because of their size.



This is a possible screen layout from Tom, N1MM (1024 by 768 pixels)

Mathematics

1. The area of a rectangle is 48 square units. The length is 8 units. What is the width?

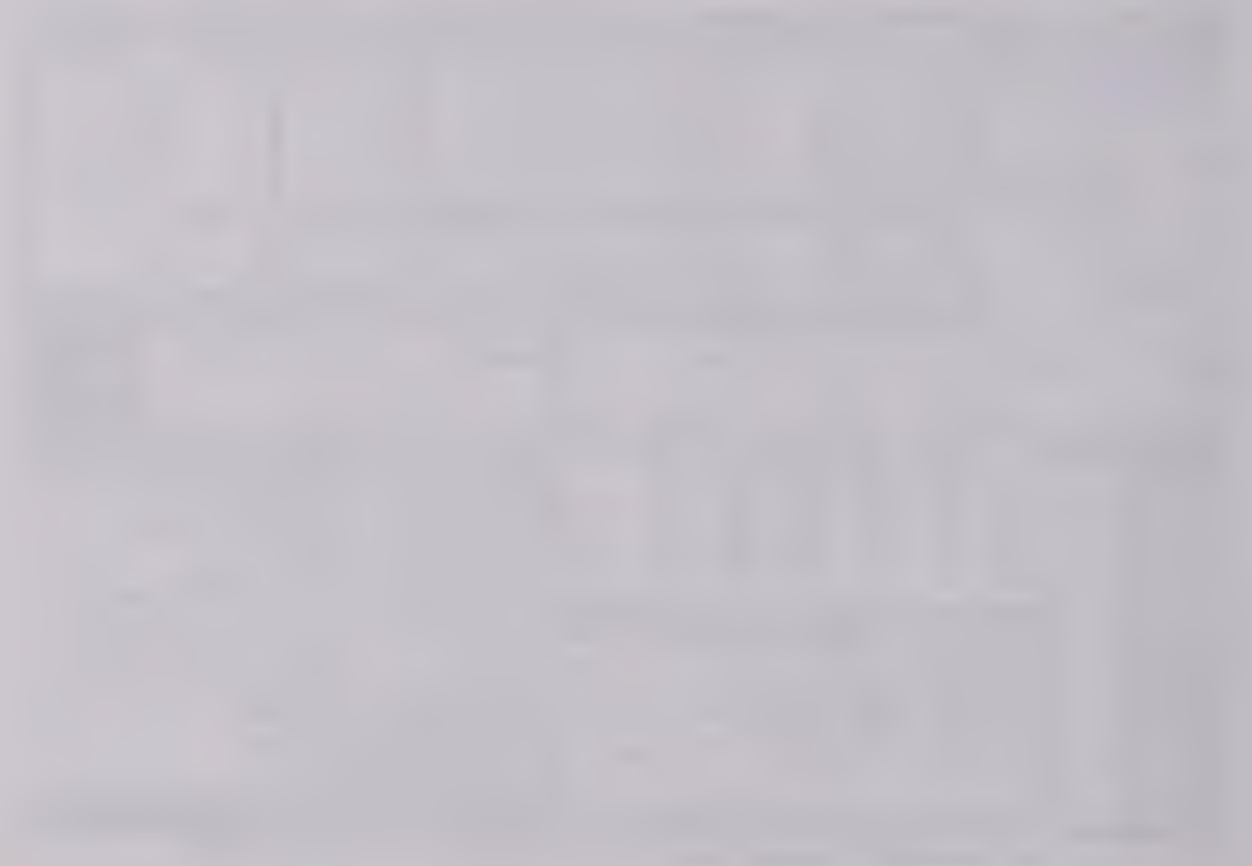
2. A triangle has a base of 10 units and a height of 6 units. What is its area?

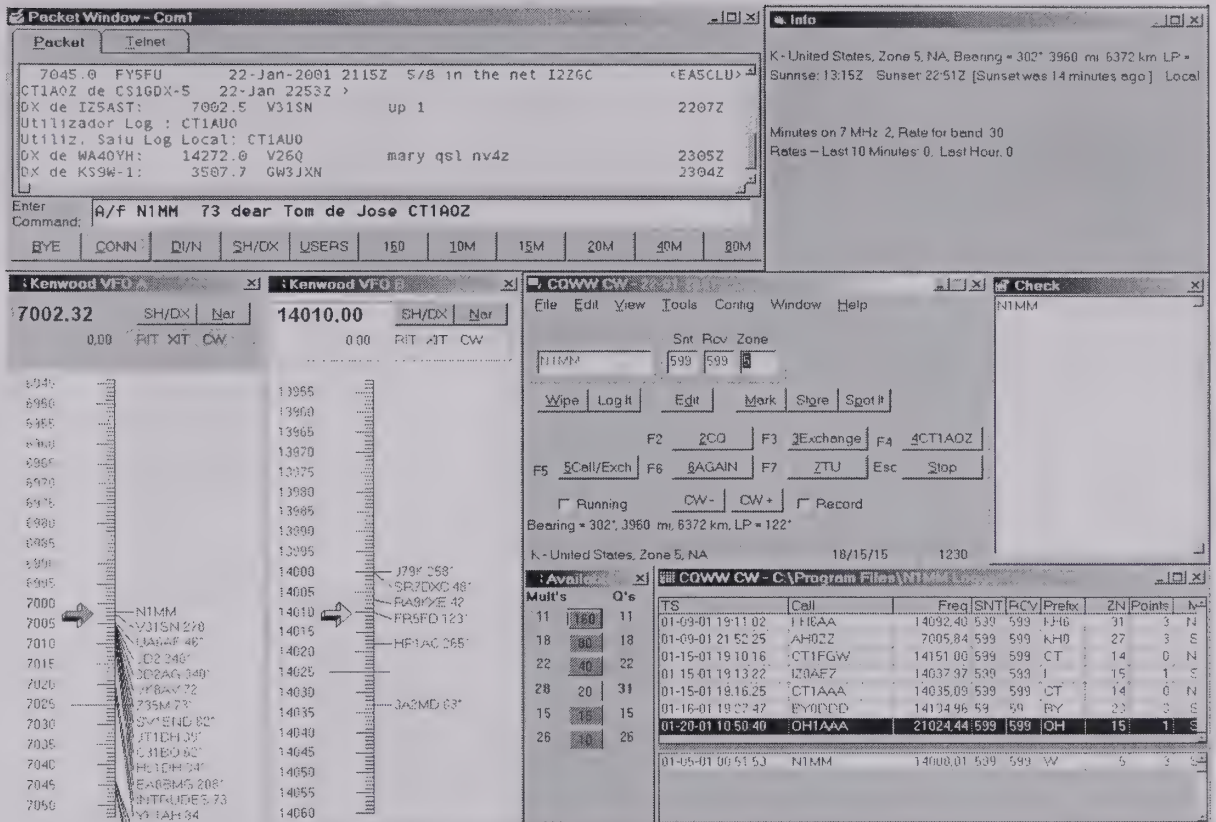
3. A circle has a radius of 5 units. What is its circumference?

4. A square has a side length of 7 units. What is its perimeter?

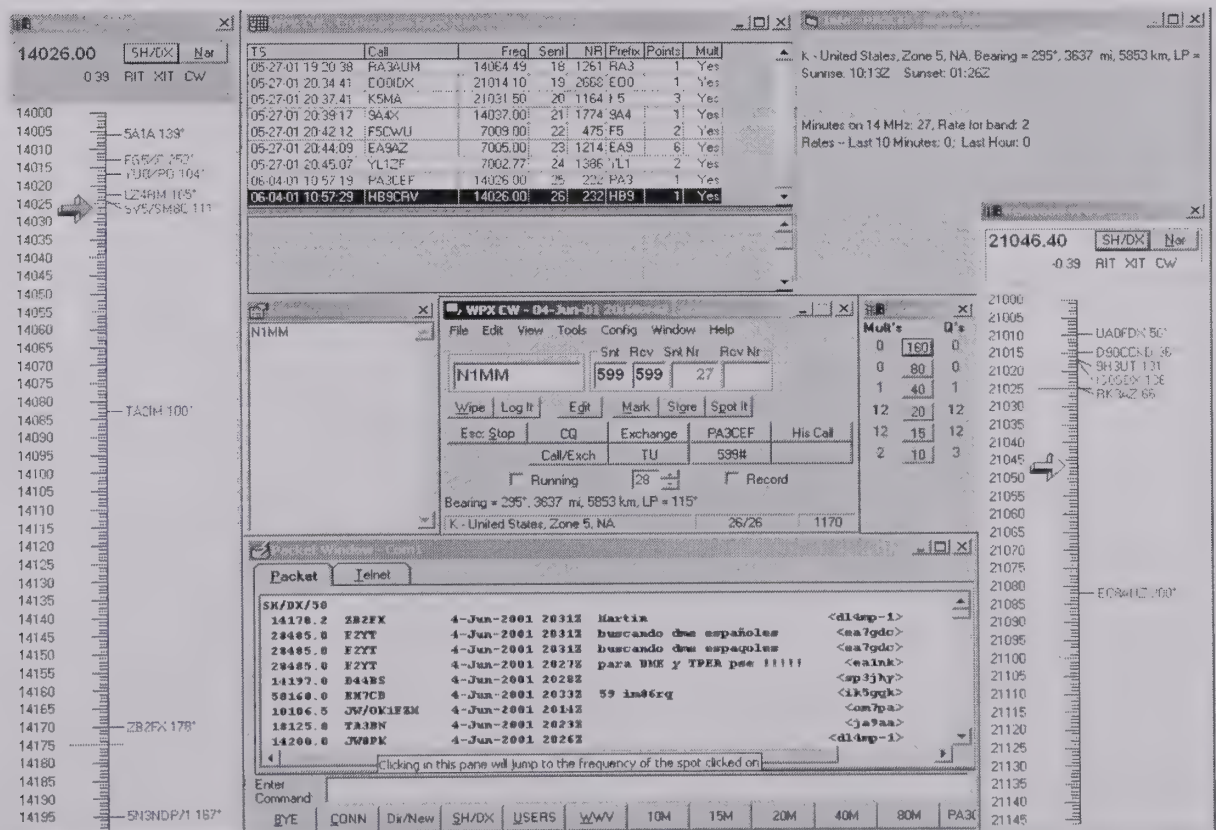
5. A right triangle has legs of 3 units and 4 units. What is the length of the hypotenuse?

6. A rectangle has a length of 12 units and a width of 5 units. What is its area?

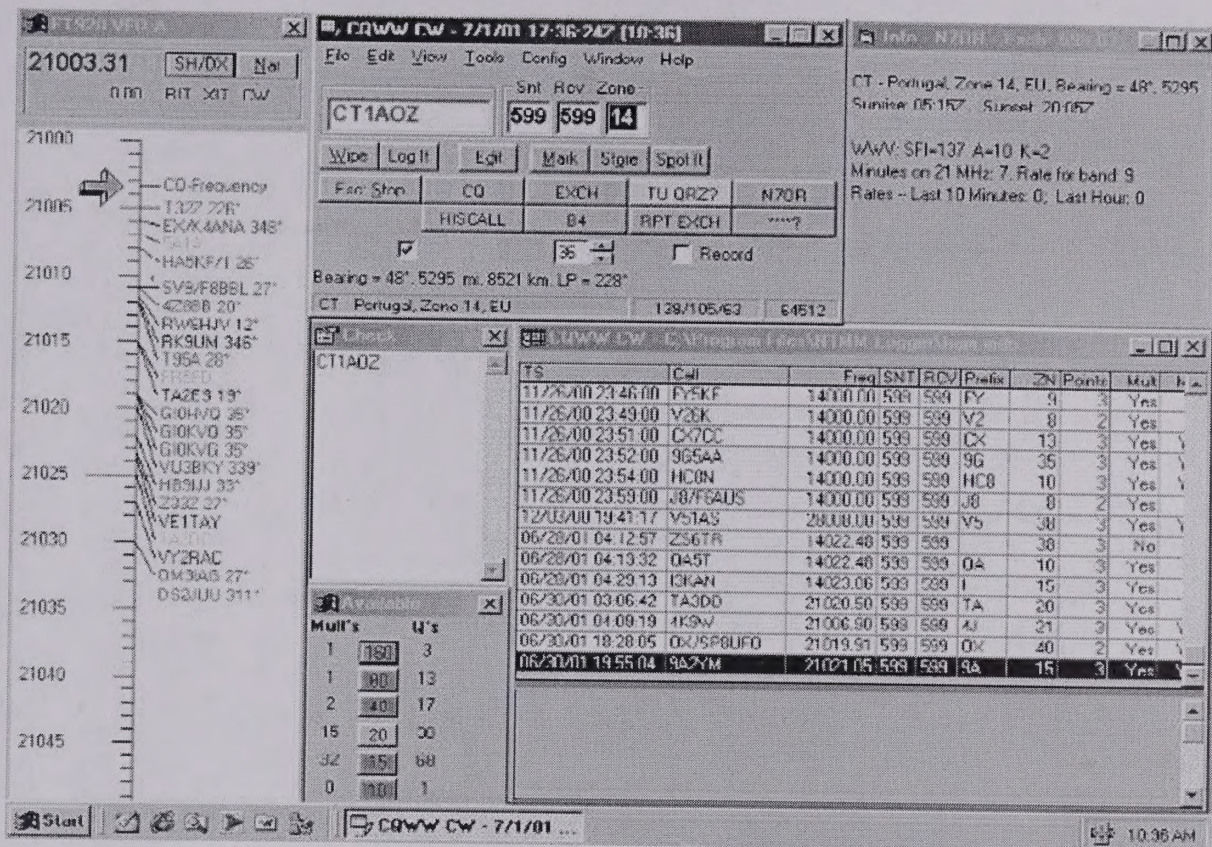




This is a possible screen layout from Jose, CT1AOZ (1024 by 768 pixels)

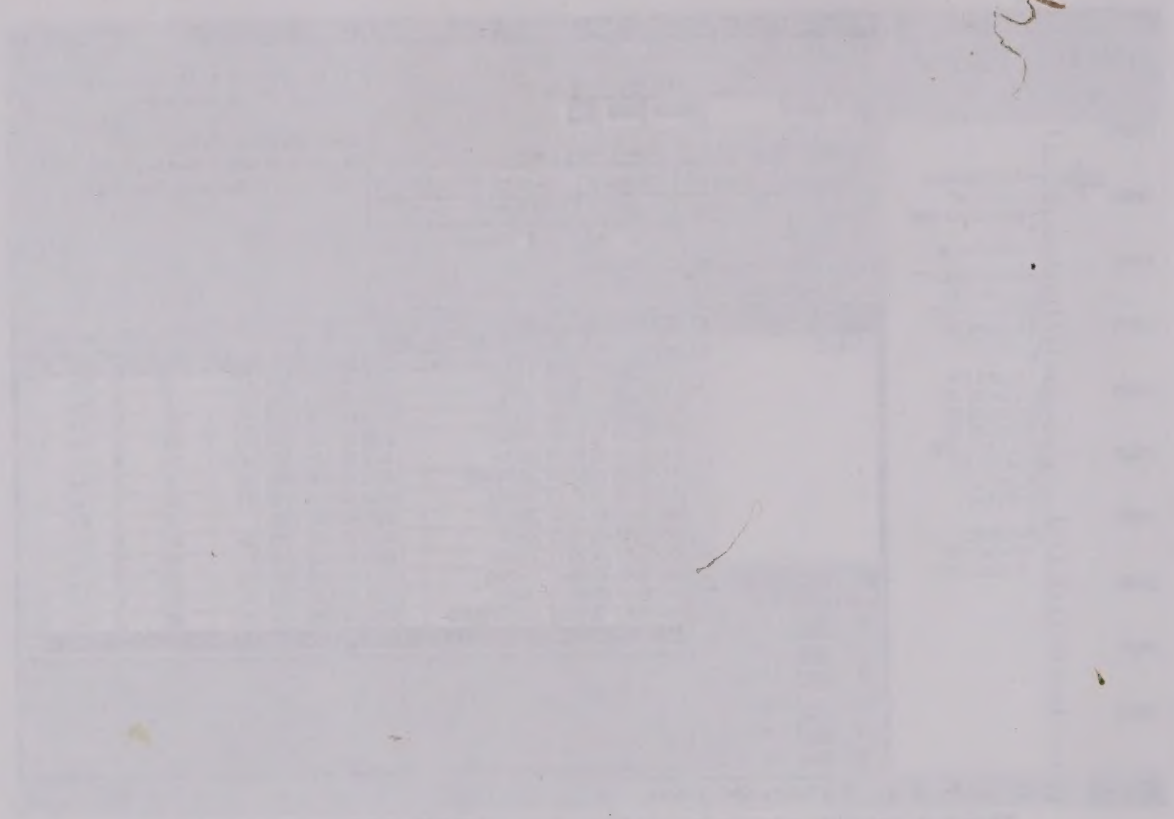


This is a possible screen layout from Thomas, PA1M (1024 by 768 pixels)



This is a possible screen layout from Craig, N7OR (800 by 600 pixels)

Handwritten marks at the top right corner.



This is a reproduction of the original document.

Associated

L2-AV1183-WE

